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## Research Article

# A PROSPECTIVE OBSERVATIONAL STUDY OF MATERNAL AND PERINATAL OUTCOME IN PREGNANCIES AT TERM WITH AMNIOTIC FLUID INDEX $\leq 5$

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This prospective observational study was carried out in a tertiary health care centre in Kolkata, West Bengal for one year July 2016 to June 2017

### ABSTRACT

This prospective observational study was carried out in a tertiary health care centre in Kolkata, West Bengal for one year July 2016 to June 2017. Study population comprised 70 pregnant mothers at 37 completed weeks of gestations with oligohydramnios. After admission amount of amniotic fluid was assessed both clinically and sonographically. All the selected cases of oligohydramnios were monitored by continuous electronic foetal monitoring in labor and managed according to the clinical condition of the patients and foetal distress. Regarding perinatal outcome our study showed that 60% babies had good Apgar score (1 minute) whereas 90% had good Apgar score (5 minutes), 63% had birth weight 2-2.4 kg, 14% babies got SNCU admission, 11% babies had congenital anomaly and 6% neonatal death occurred. Due to intrapartum complication and high rate of perinatal morbidity and mortality, rates of caesarean section are rising, but we feel that decision between vaginal delivery and caesarean section should be well balanced so that unnecessary maternal morbidity can be prevented and on the other side timely intervention can reduce perinatal morbidity and mortality.

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## INTRODUCTION

Nature has made floating cushion in the form of amniotic fluid cavity filled with liquor amnii for the requirement of fetus, for its existence, growth and development in sterile environment, regulation of temperature, avoidance of external injury and reduction of impact of uterine contractions. The amniotic sac in utero is made up of two layers of chorion (outside) and amnion (inside), contains amniotic fluid which measures about 50ml at 12 weeks, 400ml at 20 weeks and reaches its peak of about 800ml-1000ml at 36-38 weeks. From 38 weeks onwards the fluid gradually begins to reduce and there after it is about 600-800ml at 40 weeks and about 200ml at 43 weeks. This water like fluid originates from maternal plasma and passes through the fetal membranes by osmotic and hydrostatic force.

At first amniotic fluid is mainly water with electrolytes, but by about the 12-14<sup>th</sup> weeks the liquid also contains proteins, carbohydrates, lipids and phospholipids, all of which aid in the growth of fetus. Recent studies show that amniotic fluid contains a considerable quantity of stem cell. The status of amniotic fluid volume in cases of oligohydramnios is assessed clinically by uterine size, less fetal movements, the "uterus full of fetus" sign and evidences of intrauterine growth restriction of fetus [Symphysis Fundal Height(SFI) is less than 4 cm or

more corresponding to period of gestation suggests growth restriction]. Oligohydramnios<sup>[1]</sup> has been correlated with increased risk of intrauterine growth retardation, meconium aspiration syndrome, severe birth asphyxia, low APGAR scores and congenital abnormalities, low birth weight, perinatal morbidity, perinatal mortality and increased incidence of cesarean section. Oligohydramnios is also associated with maternal morbidity, in the form of increased rates of induction and/or operative interference<sup>[2]</sup>.

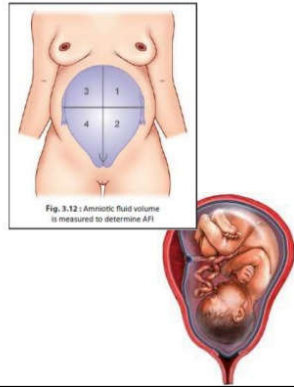
With the help of amniotic fluid estimation by Amniotic fluid Index (AFI) using four quadrant technique during transabdominal USG, as described by Phelan *et al*<sup>[3]</sup> in 1997, better identification of fetus at high risk can be done, which was otherwise difficult in the past by clinical estimation of amniotic fluid alone. In case of oligohydramnios amniotic fluid volume (AFV) is about 500ml or less at 32-36 weeks of gestation or maximum vertical pocket (MVP)  $< 2$ cm or of fluid in four quadrant of abdomen are measured by ultrasound and added up resulting in an amniotic fluid index (AFI) and MVP is the 'single deepest vertical pocket' of fluid is identified by amniotic fluid index (AFI)  $< 5$ . A borderline AFI is called when AFI is 5- 8. AFI is better than MVP in assessment of oligohydramnios<sup>[4]</sup>.

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## Technique of AFI

- Uterus divided into 4 quadrants
- Transducer in vertical plane
- Sum of 4 quadrants max pocket depth excluding cord & limbs.
- Prior to 20 wks 2 halves



### The Purpose of this study is

- To find out etiological factors of oligodramnious ( $AFI \leq 5$ ) if any and correct accordingly.
- To judge and terminate the pregnancy by appropriate procedure according the patients merit.
- To record and assess perinatal outcome.

## MATERIALS AND METHODS

Informed written consent was taken from the pregnant mothers participating in the study. Ethical committee clearance was taken for conducting this study.

**Study design:** Prospective observational study

**Place of study:** Department of Obstetrics and Gynaecology of Calcutta National Medical College and Hospital.

**Study population:** Mothers attending hospital for antenatal check-up and routine antenatal care to the Antenatal OPD at term or who are attending at emergency at term.

**Duration of study:** One year, (from July 2016 to June 2017)

**Study population: Total cases: 70**

### Sample selection

#### Inclusion criteria

- Amniotic fluid index less than 5 (USG diagnosed)
- Single live intrauterine gestation with cephalic presentation
- 37 completed weeks of gestation
- Intact membrane

**Exclusion criteria:** Pregnancies with  $AFI > 5$

- Gestational age  $< 37$  completed weeks
- Post term
- Associated fetal malformations
- Ruptured membranes
- Malpresentation and multiple gestations
- Patients' unwillingness to take part in the study

**Sample size:** 70 cases

## Methodology of Study

After admission, history was taken and maturity and amount of liquor was assessed both clinically and sonologically. Liquor was assessed again by ultrasonography and if  $AFI \leq 5$  the case was selected for study.

For all selected cases –First Bishop's Scoring is done if cervical scoring is favourable then CTG was done. If CTG was found normal then induction had been done by PGE2 Gel. Continuous and close monitoring of Fetal Heart Rate (FHR) was done. Re-assessment was done after 6 hours. If patient in labor Oxytocin was started. If no progress LSCS was done. All cases was monitored by continuous electronic fetal monitoring in labor. Any signs of fetal distress occurred then emergency LSCS done.

After active phase of labor 5 cm or above dilatation of the cervical os artificial rupture of membrane was done and classified accordingly to colour of liquor.

Cases with meconium stain liquor was taken for emergency LSCS. All newborns were attended by pediatrician.

Various outcome measures like induced versus spontaneous labor, nature of amniotic fluid, Fetal Heart Rate tracing, mode of delivery, indication for caesarean section or instrumental delivery, APGAR score at one minute and five minute, birth weight, admission to neonatal ward, perinatal morbidity and mortality were recorded.

## Questionnaires

### Detailed History Taking

#### Basic Information

- Age of the patient
- Occupation and marital status
- Husband occupation

#### Obstetric history

- Duration of married life
- History of previous pregnancies or miscarriage
- Period of infertility
- History of contraception

#### Menstrual History

- Age of menarche
- Length, regularity and frequency of cycles
- Duration and amount of flow.
- Dysmenorrhoea and inter – menstrual history.

#### Medical History

- Thyroid abnormalities
- Hypertension
- Diabetes
- Drug allergies
- Epilepsy etc.

#### Surgical History

Any previous surgical history of abdomen or pelvis.

#### Social History

- Smoking

- Alcohol
- Tobacco chewing

**Clinical Examination**

- Per Abdominal Examination
- Per Vaginal Examination

**Routine Investigation**

- Complete Haemogram
- Blood group and RH type
- HIV I & II
- HBsAg
- HPLC
- Urine routine examination
- FT4, TSH
- VDRL
- FBS, PPBS

**Specific Investigations**

- Ultrasonography for Fetoplacental Profile with colour Doppler
- Ultrasonography for Umbilical Artery and MCA Velociometry.

**Statistical Analysis**

Data were analyzed using SPSS(Statistical Package for Social Scientist) version 16.0 IBM,Chicago,USA. Chi square test and Fisher’s Exact Test were applied at 5% significance level.

**Photographs**

**Ultrasound Shows Reduced Liquor**



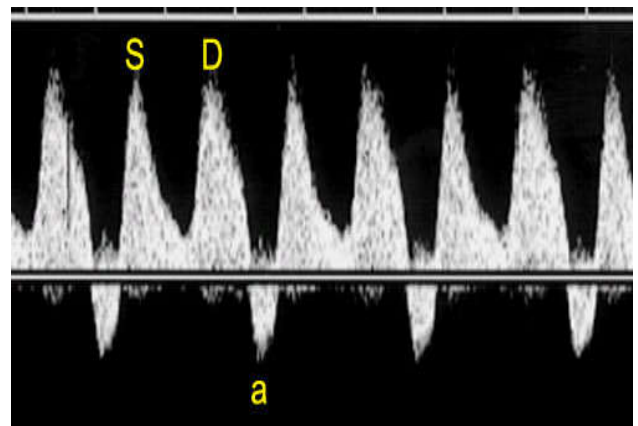
**Extremely Reduced Liquor seen in Ultrasound**



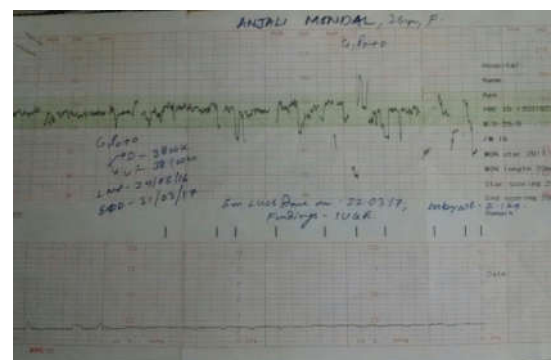
**The Doppler study of MCA in a IUGR Baby**



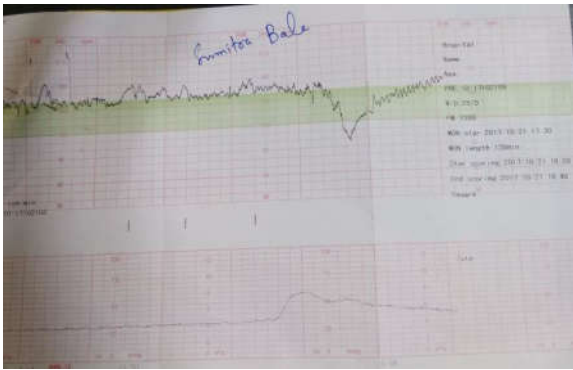
**Doppler Study of MCA Showing Reverse Diastolic flow**



**Pathological CTG**



**Pathological CTG**



**Treatment of IUGR Baby at SNCU**



**Club-Foot, the Effect of Oligohydramnios**

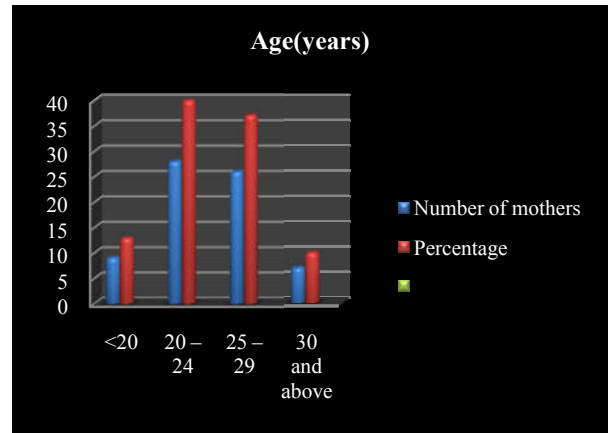


**RESULTS ANALYSIS**

**Table 1** Distribution of the mothers according to age-group (n = 70)

Age group (years)	Number of mothers	Percentage
<20	9	12.9
20 – 24	28	40.0
25 – 29	26	37.1
30 and above	7	10.0
Total	70	100.0

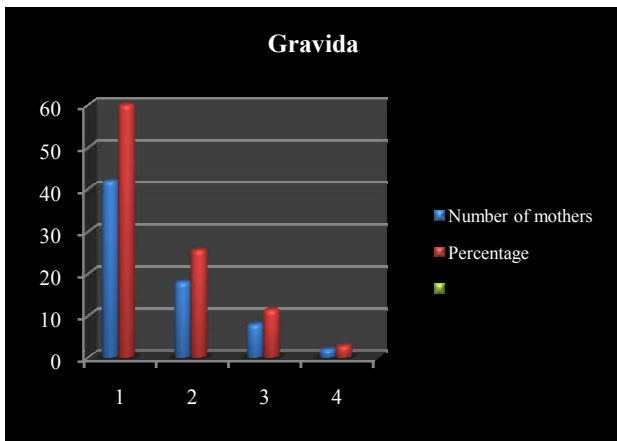
**Comment:** Majority of the Mothers belonged to 20 -24 years



**Table 2** Distribution of mother according to gravida(n= 70)

Gravida	Number of mothers	Percentage
1	42	60.0
2	18	25.7
3	8	11.4
4	2	2.9
Total	70	100.0

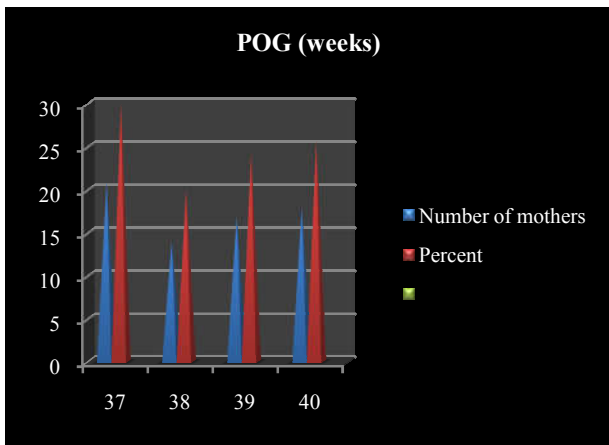
**Comment:** Majority of the Mothers belong to Primigravida



**Table 3** Distribution of mothers during admission according to POG

POG	Number of mothers	Percent
37	21	30.0
38	14	20.0
39	17	24.3
40	18	25.7
Total	70	100.0

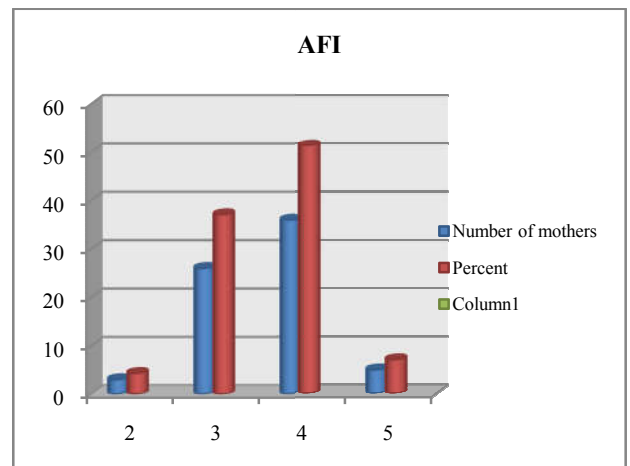
**Comment:** Majority of mother belongs to POG 37 week during admission



**Table 4** Distribution of mother according to AFI

AFI	Number of mothers	Percent
2	3	4.3
3	26	37.1
4	36	51.4
5	5	7.1
Total	70	100.0

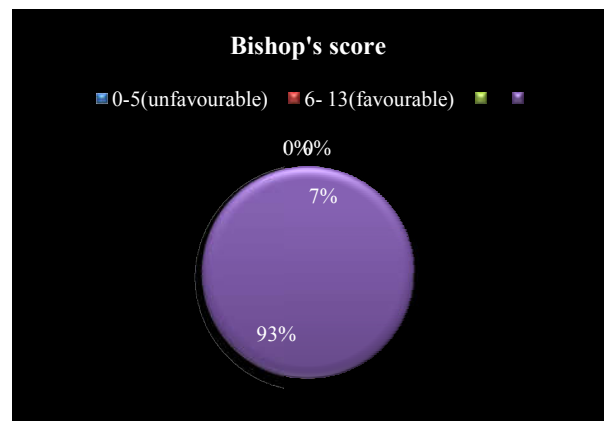
**Comment:** Majority of Mothers Had an AFI 4.



**Table 5** Distribution of mother according to Bishop's Score

Bishop's score	Number of mothers	Percent
0-5 (unfavourable)	5	7.1
6-13 (favourable)	65	92.9
Total	70	100.0

**Comment:** Majority of Mother had been found with Favourable Bishop's score.



**Table 6** Distribution of mothers according to maternal complication

Maternal complication	Number of mothers	Percent
IUGR	32	45.7
PIH	17	24.3
Unknown cause	21	30
Total	70	100.0

Comment: Majority of Mothers had IUGR.

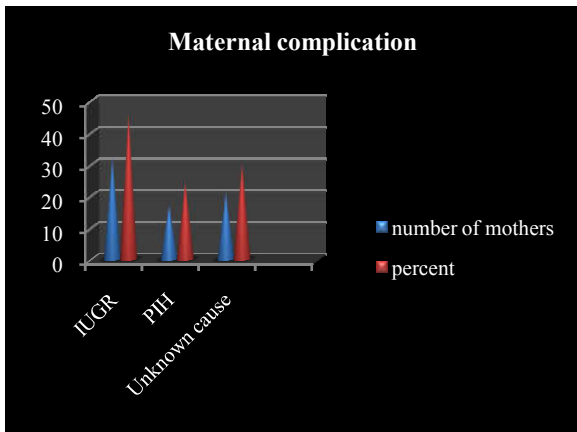


Table 7 Distribution of mothers according CTG

CTG	Number of mothers	Percent
Reactive	54	77.1
Pathological	16	22.9
Total	70	100.0

Comment: Majority of the Mothers had Reactive CTG

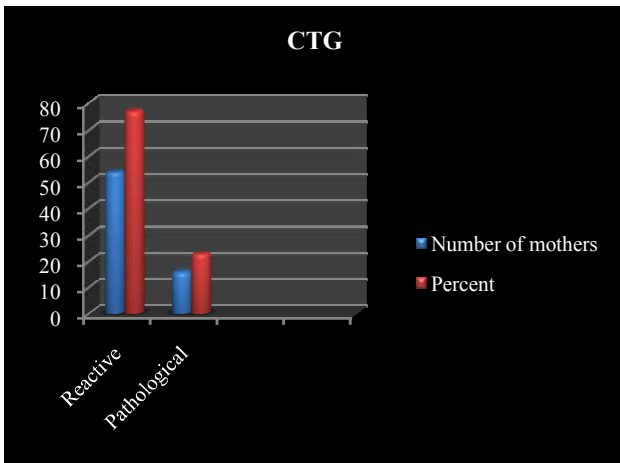


Table 8 Distribution of mothers according to Doppler study

Doppler study	Number of mothers	Percent
Normal	56	80.0
Abnormal	14	20.0
Total	70	100.0

Comment: Majority of Mothers had Normal Doppler study

Table 9 Distribution of mothers according to Initiation of labour

Initiation of labor	Number of mothers	Percent
Induced	42	60.0
Spontaneous	16	22.9
Not induced	12	17.1
Total	70	100.0

Comment: Majority of the Mothers had Induced Initiation of labor

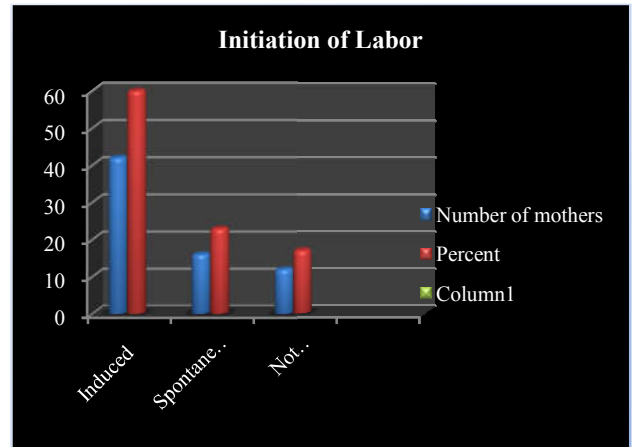


Table 10 Distribution of mothers according to colour of Amniotic Fluid

Amniotic Fluid	Number of mothers	Cumulative Percent
Clear	59	84.3
MSL	9	12.8
Light MSL	2	2.9
Total	70	100

Comment: Majority of Mothers had clear Amniotic Fluid

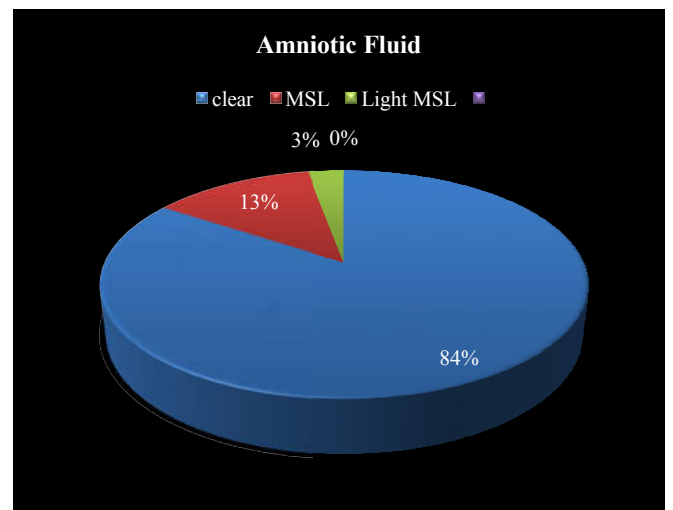


Table 11 Distribution of mothers according to FHR

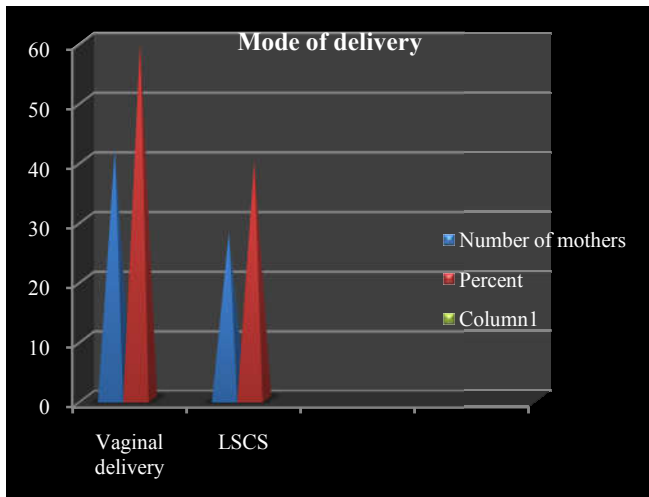
FHR	Number of mothers	Percent
Normal	54	77.1
Abnormal	16	22.9
Total	70	100.0

Comment: Majority of Mothers had normal FHR

Table 12 Distribution of mothers according to Mode of delivery

Mode of delivery	Number of mothers	Percent
Vaginal delivery	42	60.0
LSCS	28	40.0
Total	70	100.0

Comment: Majority of mothers had delivered baby vaginally.



**Table 13** Association of gravida with mode of delivery (n = 70)

Gravida		Mode of delivery		Total
		Vaginal delivery	LSCS	
1	Count	27	15	42
	% within gravida	64.3%	35.7%	100.0%
2	Count	10	8	18
	% within gravida	55.6%	44.4%	100.0%
3	Count	5	3	8
	% within gravida	62.5%	37.5%	100.0%
4	Count	0	2	2
	% within gravida	0.0%	100.0%	100.0%
Total	Count	42	28	70
	% within gravida	60.0%	40.0%	100.0%

Comment: Gravida was not significantly associated with mode of delivery [ $\chi^2 (3) = 3.49$   $p = 0.32$ ]

**Table 14** Association between Maternal complication with mode of delivery(n=70)

Complications		Mode of delivery		Total
		Vaginal delivery	LSCS	
IUGR	Count	24	8	32
	% within complication	75%	25%	100.0%
PIH	Count	4	13	17
	% within Complications	23.5%	76.5%	100.0%
Unknown	Count	14	7	21
	%within complication	66.6%	33.4%	100%
Total	Count	42	28	70
	% within Complications	60.0%	40.0%	100.0%

Comment: Significantly more LSCS was done in case of PIH [ $\chi^2 (1) = 17.32$   $p = 0.000$ ]

**Table 15** Association between CTG and Mode of delivery(n=70)

CTG		Mode of delivery		Total
		Vaginal delivery	LSCS	
Reactive	Count	40	14	54
	% within CTG	74.1%	25.9%	100.0%
Pathological	Count	2	14	16
	% within CTG	12.5%	87.5%	100.0%
Total	Count	42	28	70
	% within CTG	60.0%	40.0%	100.0%

Comment: Significantly more LSCS done in case of Pathological CTG [ $\chi^2 (1) = 19.498$   $p = 0.000$ ]

**Table 16** Association between colour of Amniotic Fluid and mode of delivery

Amniotic fluid		Mode of delivery		Total
		Vaginal delivery	LSCS	
Clear	Count	41	18	59
	% within Amniotic fluid	69.5%	30.5%	100.0%
	Count	0	9	9
	% within Amniotic fluid	0.0%	100.0%	100.0%
	Count	1	1	2
	% within Amniotic fluid	50.0%	50.0%	100.0%
Total	Count	42	28	70
	% within Amniotic fluid	60.0%	40.0%	100.0%

Comment: Significantly mode of deliveries varied with the colour of Amniotic fluid [ $\chi^2 (2) = 15.798$   $p = 0.000$ ]

**Table 17** Association between FHR and mode of delivery

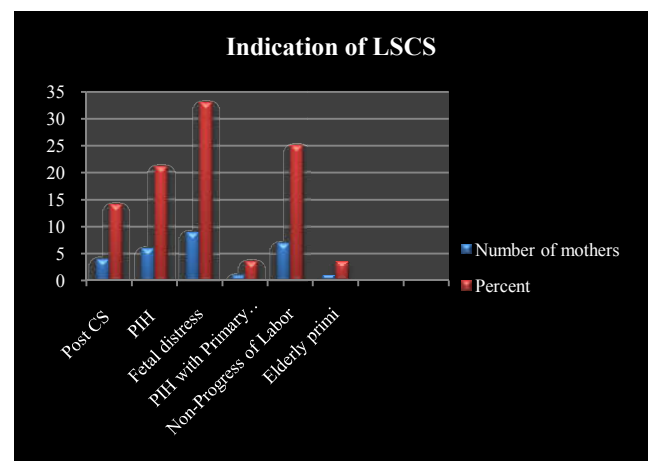
FHR		Mode of delivery		Total
		Vaginal delivery	LSCS	
Normal	Count	42	12	54
	% within FHR	77.8%	22.2%	100.0%
Abnormal	Count	0	16	16
	% within FHR	0.0%	100.0%	100.0%
Total	Count	42	28	70
	% within FHR	60.0%	40.0%	100.0%

Comment: LSCS is more in case of abnormal FHR (Fisher's Exact Test  $p = .000$ )

**Table 18** Distribution of mothers according to Indication of LSCS (n=28)

Indication of LSCS	Number of mothers	Percent
Post-CS	4	14
PIH	6	21
Foetal distress	9	33
PIH with Primary Infertility	1	3.5
Non-Progress of labor	7	25
Elderly primi	1	3.5
Total	28	100.0

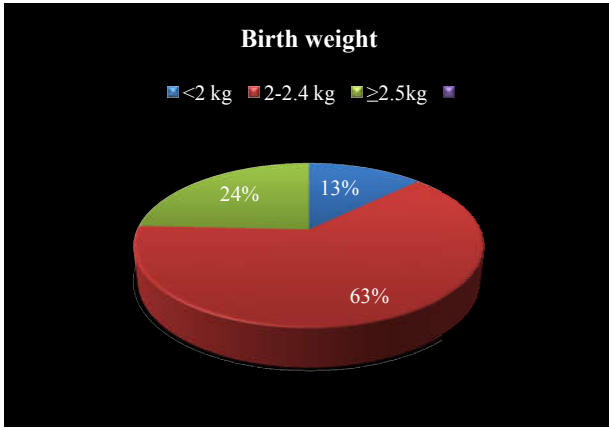
Comment: Majority of indication of LSCS due to Foetal causes e.g. Fetalbradycardia and Fetal Distress



**Table 19** Distribution of mothers according to Birth weight (kg)

Birth weight	Number of mothers	Percent
<2kg	9	12.9
2-2.4 kg	44	62.9
≥2.5 kg	17	24.3
Total	70	100.0

Comment: Majority of the baby had( 2-2.4) kg birth weight(kg)



**Table 20** Association of AFI with Birth weight(kg)

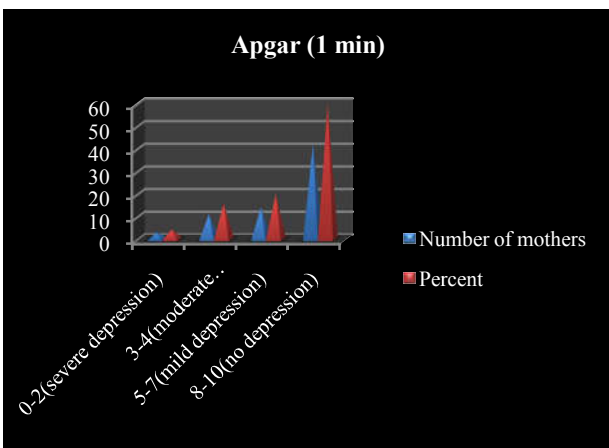
	AFI		Birth weight			Total
			<2kg	2-2.4 kg	≥2.5kg	
2	Count		1	2	0	3
		% within AFI	33.3%	66.7%	0.0%	100.0%
	3	Count	5	12	9	26
		% within AFI	19.2%	46.2%	34.6%	100.0%
	4	Count	3	25	8	36
		% within AFI	8.3%	69.4%	22.2%	100.0%
5	Count	0	5	0	5	
	% within AFI	0.0%	100.0%	0.0%	100.0%	
Total	Count	9	44	17	70	
	% within AFI	12.9%	62.9%	24.3%	100.0%	

Comment: Co-relation between AFI and Birth weight is significant.

**Table 21** Distribution of mothers according to Apgar (1 min)

Apgar (1 min)	Number of mothers	Percent
0-2	3	4.3
3-4	11	15.7
5-7	14	20.0
8-10	42	60.0
Total	70	100.0

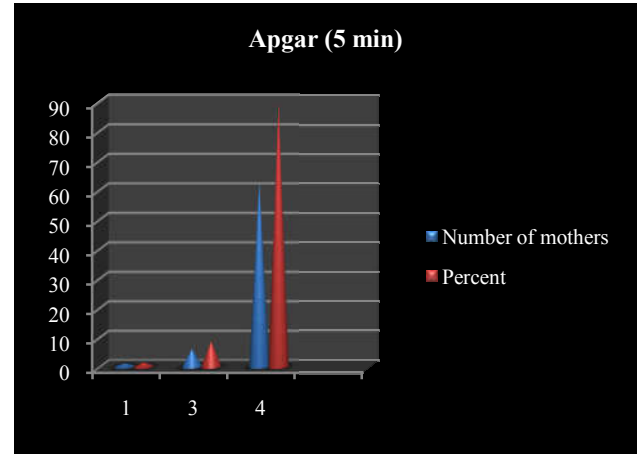
Comment: Majority of baby had good 1 min Apgar score(8-10)



**Table 22** Distribution of mothers according to Apgar( 5 min)

Apgar(5 min)	Number of mothers	Percent
0-2	1	1.4
5-7	6	8.6
8-10	63	90.0
Total	70	100.0

Comment: Majority of baby had good 5 min Apgar score(8-10)



**Table 23** Association between CTG and Apgar (1 min)

	CTG		Apgar(1 min)				Total
			1.00	2.00	3.00	4.00	
Reactive	Count		0	4	9	41	54
		% within CTG	0.0%	7.4%	16.7%	75.9%	100.0%
	Pathologica l	Count	3	7	5	1	16
		% within CTG	18.8%	43.8%	31.2%	6.2%	100.0%
Total	Count	3	11	14	42	70	
	% within CTG	4.3%	15.7%	20.0%	60.0%	100.0%	

Comment: Severe Depression is more in Pathological CTG [ $\chi^2(3) = 31.799$   $p = 0.000$ ]

**Table 24** Association of colour of Amniotic fluid with Apgar score (1 min)

	Amniotic fluid		Apgar(1 min)				Total
			1.00	2.00	3.00	4.00	
Clear	Count		0	6	13	40	59
		% within Amniotic fluid	0.0%	10.2%	22.0%	67.8%	100.0%
	MSL	Count	3	5	1	0	9
		% within Amniotic fluid	33.3%	55.6%	11.1%	0.0%	100.0%
Light MSL	Count	0	0	0	2	2	
	% within Amniotic fluid	0.0%	0.0%	0.0%	100.0%	100.0%	
Total	Count	3	11	14	42	70	
	% within Amniotic fluid	4.3%	15.7%	20.0%	60.0%	100.0%	

Comment: Significantly Apgar one is varied with colour of amniotic fluid [ $\chi^2(3) = 43.016$   $p = 0.000$ ]

**Table 25** Association of AFI with Apgar score (1 min)

	AFI		Apgar (1 min)				Total
			1.00	2.00	3.00	4.00	
2	Count		1	1	1	0	3
		% within AFI	33.3%	33.3%	33.3%	0.0%	100.0%
3	Count		0	6	0	20	26
		% within AFI	0.0%	23.1%	0.0%	76.9%	100.0%
4	Count		2	4	12	18	36
		% within AFI	5.6%	11.1%	33.3%	50.0%	100.0%
5	Count		0	0	1	4	5
		% within AFI	0.0%	0.0%	20.0%	80.0%	100.0%
Total	Count	3	11	14	42	70	
	% within AFI	4.3%	15.7%	20.0%	60.0%	100.0%	

Comment: The co-relationship of AFI and Apgar score (1 min) is not significant [ $\chi^2(9) = 22.772$   $p = 0.007$ ]



**Table 26** Distribution of mothers according to Congenital anomaly

Congenital anomaly	Number of mothers	Percent
Absent	62	88.6
Present	8	11.4
Total	70	100.0

Comment: Majority of babies have no congenital anomaly

**Table 27** Distribution of babies according to SNCU admission

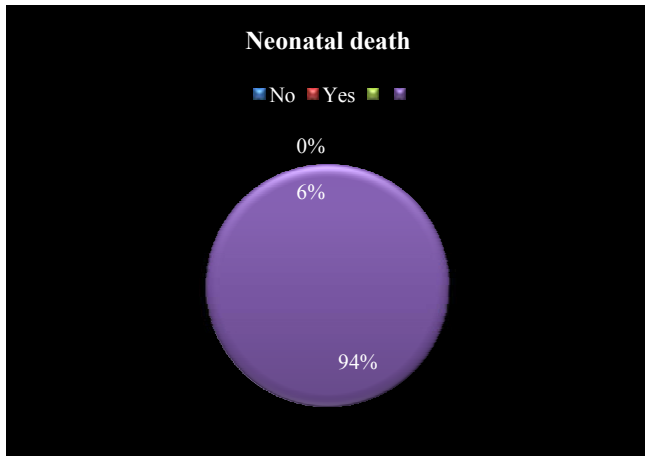
SNCU admission	Number of babies	Percent
No	60	85.7
Yes	10	14.3
Total	70	100.0

Comment: Majority of babies were not needed to be admitted to SNCU

**Table 28** Distribution of babies according to Neonatal death

Neonatal death	Number of babies	Percent
No	66	94.3
Yes	4	5.7
Total	70	100.0

Comment: Neonatal death is minimum.



**Table 29** Association of AFI with neonatal death

		Neonatal death		Total	
		No	Yes		
AFI	2	Count	2	1	3
		% within AFI	66.7%	33.3%	100.0%
	3	Count	26	0	26
		% within AFI	100.0%	0.0%	100.0%
	4	Count	33	3	36
		% within AFI	91.7%	8.3%	100.0%
	5	Count	5	0	5
		% within AFI	100.0%	0.0%	100.0%
Total	Count	66	4	70	
	% within AFI	94.3%	5.7%	100.0%	

Comment: There is co-relation between AFI and neonatal death

**Table 30** Distribution of mothers according to mothers outcome on discharge

Mothers outcome	Number of mothers	Percent
Good	65	92.9
Referred to MOPD	3	4.3
Wound Infection	2	2.9
Total	70	100.0

Comment: Majority of mothers were good on discharge

**Table 31** Association of AFI with mothers outcome on discharge

		Mother outcome on discharge			Total	
		Good	Referred to MOPD	Wound Infection		
AFI	2	Count	1	1	1	3
		% within AFI	33.3%	33.3%	33.3%	100.0%
	3	Count	25	0	1	26
		% within AFI	96.2%	0.0%	3.8%	100.0%
	4	Count	34	2	0	36
		% within AFI	94.4%	5.6%	0.0%	100.0%
Total	5	Count	5	0	0	5
		% within AFI	100.0%	0.0%	0.0%	100.0%
	Count	65	3	2	70	
	% within AFI	92.9%	4.3%	2.9%	100.0%	

Comment: The co- relation between AFI and mothers outcome on discharge is significant.

**Table 21** Association of gravida with mode of delivery (n = 70)

Gravida		Mode of delivery		Total
		Vaginal delivery	LSCS	
1	Count	27	15	42
	% within gravida	64.3%	35.7%	100.0%
2	Count	10	8	18
	% within gravida	55.6%	44.4%	100.0%
3	Count	5	3	8
	% within gravida	62.5%	37.5%	100.0%
4	Count	0	2	2
	% within gravida	0.0%	100.0%	100.0%
Total	Count	42	28	70
	% within gravida	60.0%	40.0%	100.0%

Comment: Gravida was not significantly associated with mode of delivery [ $\chi^2 (3) = 3.49$  p= 0.32]

**Table 22** Association between Maternal complication with mode of delivery (n=70)

Complications		Mode of delivery		Total
		Vaginal delivery	LSCS	
IUGR	Count	24	8	32
	% within complication	75%	25%	100.0%
PIH	Count	4	13	17
	% within Complications	23.5%	76.5%	100.0%
Unknown	Count	14	7	21
	%within complication	66.6%	33.4%	100%
Total	Count	42	28	70
	% within Complications	60.0%	40.0%	100.0%

Comment: Significantly more LSCS was done in case of PIH [ $\chi^2 (1) = 17.32$  p= 0.000]

**Table 23** Association between CTG and Mode of delivery (n=70)

		Mode of delivery		Total	
		Vaginal delivery	LSCS		
CTG	Reactive	Count	40	14	54
		% within CTG	74.1%	25.9%	100.0%
	Pathological	Count	2	14	16
		% within CTG	12.5%	87.5%	100.0%
Total	Count	42	28	70	
	% within CTG	60.0%	40.0%	100.0%	

Comment: Significantly more LSCS done in case of Pathological CTG [ $\chi^2(1) = 19.498$   $p = 0.000$ ]

**Table 24** Association between colour of Amniotic Fluid and mode of delivery

		Mode of delivery		Total	
		Vaginal delivery	LSCS		
Amniotic fluid	Clear	Count	41	18	59
		% within Amniotic fluid	69.5%	30.5%	100.0%
	MSL	Count	0	9	9
		% within Amniotic fluid	0.0%	100.0%	100.0%
	Light MSL	Count	1	1	2
		% within Amniotic fluid	50.0%	50.0%	100.0%
Total	Count	42	28	70	
	% within Amniotic fluid	60.0%	40.0%	100.0%	

Comment: Significantly mode of deliveries varied with the nature of Amniotic fluid [ $\chi^2(2) = 15.798$   $p = 0.000$ ]

**Summary**

In my study of 70 antenatal patients with AFI $\leq$ 5 at term after admission 60% of mother were primigravida and the rest were multigravida. Maximum belongs to 20-24 years of age. Among the study group, AFI 4 is maximum (51.4%) and 92 % had favorable Bishop’s score. Also 77% had reactive CTG, 80% normal Doppler study and 84% had clear amniotic fluid. Most common cause of oligohydramnios found to be IUGR(45.7%) and secondly PIH(21%). Operative intervention was more in primigravida(60%) and in patients having PIH(87%) and also in pathological CTG group(87%). In Doppler study 93% patients of abnormal group delivered by caesarean section and in normal Doppler 73% was delivered vaginally and 27% delivered by caesarean section. Regarding perinatal outcome, my study showed that, 60% baby had good Apgar score(1 min) whereas 90% had good Apgar score(5 min), most of the birth weight is 2-2.4 kg(63%), 14% babies got SNCU admission, 11% baby had congenital anomaly & 6% neonatal death occurred.

**CONCLUSION**

The goal of antepartum fetal surveillance is to identify the fetus at risk, amniotic fluid volume has been proved an indirect measure of fetoplacental function. Hence the estimation of amniotic fluid index assists the obstetrician in risk assessment. Four quadrant technique for AFI provides a most convenient and reproducible method of evaluating amniotic fluid volume. Oligohydramnios i.e, AFI $\leq$ 5 measured by ultrasonography in term pregnancies is associated with adverse perinatal outcome. It signifies the need for prevention, early detection and timely intervention to prevent the associated complications. Proper antenatal care with emphasis on clinical and ultrasonographic assessment of liquor preventing antenatal complications like pregnancy induced hypertension, post term pregnancies can probably reduce the incidence of oligohydramnios. The risks of meconium staining of liquor, intrapartum fetal distress, operative delivery and perinatal mortality are significantly higher in patients with AFI $\leq$ 5. Early intervention in the form of induction of labour, close intrapartum monitoring, artificial rupture of membranes in active phase of labour and grading of liquor and early decision making regarding mode of delivery are the steps to be taken to prevent poor perinatal outcome.

Immediately after birth, proper resuscitation by a paediatrician is mandatory. Hence it may be concluded that four quadrant assessment of amniotic fluid volume is a useful adjunct to antepartum fetal surveillance of high risk pregnancy. Oligohydramnios is being detected more often these days, due to routinely performed obstetric ultrasonography. Pregnancy induced hypertension and postdated pregnancies are the commonest causes of reduced amniotic fluid during third trimester of pregnancy. Anomalies of the fetal renal system are responsible for oligohydramnios in second and third trimester. The time and mode of delivery of these cases depends on severity of oligohydramnios and status of fetal wellbeing. Caesarean section is mostly required for cases with anhydramnios and intrapartum fetal heart rate abnormalities. Babies are relatively more prone for certain complications, like intrapartum fetal distress, meconium aspiration syndrome and birth asphyxia. Those patients who had less AFI delivered the majority of asphyxiated babies. Adverse perinatal outcome can be avoided by careful intrapartum fetal heart rate monitoring. Every case of oligohydramnios needs careful antenatal evaluation, parental counseling, individualized decision regarding timing and mode of delivery. Continuous intrapartum fetal monitoring and good neonatal care are necessary for better perinatal outcome. Oligohydramnios is frequent occurrence and demands intensive fetal surveillance and proper antepartum and intrapartum care. Due to intrapartum complication and high rate of perinatal morbidity and mortality, rates of caesarean section are rising, but decision between vaginal delivery and caesarean section should be well balanced so that unnecessary maternal morbidity can be prevented and on the other side timely intervention can reduce perinatal morbidity and mortality.

**Bibliography**

1. Dasari P, Niveditta G, Raghavan S. The maximal vertical pocket and amniotic fluid index in predicting fetal distress in prolonged pregnancy. Int J Gynaecol Krishna Jagatia *et al.* Maternal and Fetal Outcome in Oligohydramnios 727 International Journal of Medical Science and Public Health | 2013 | Vol 2 | Issue 3 Obstet 2007;96(2):89-93.
2. Rainford M, Adair R, Scialli AR, Ghidini A, Spong CY. Amniotic fluid index in the uncomplicated term pregnancy. Prediction of outcome. J Reprod Med 2001;46(6):589-92.
3. Phelan JP, Smith CV, Broussard P, Small M. Amniotic fluid volume assessment using the four-quadrant technique in the pregnancy at 36-42 weeks gestation. J Reprod Med 1987;32(7):540-2.
4. D.C. Dutta, A text book of Obstetrics including perinatology & contraception. 6th Edition, s 218