



ASSESSMENT OF OBSTETRIC FACTORS AND PREGNANCY OUTCOMES IN WOMEN WITH DECREASED FETAL MOVEMENT BEYOND 34 WEEKS OF GESTATION

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ABSTRACT

Fetal movements are a sign of fetal well-being and its count is a non-invasive method of screening for the fetus at risk of poor pregnancy outcomes. The wide and multifactorial etiology of decreased fetal movements is a dilemma and data on its association with obstetric factors is conflicting. Maternal perception of fetal movements is a self-screening method for assessing fetal well-being and serves as an indirect measure of central nervous system integrity and function. This study aims to assess obstetric factors in women with decreased fetal movement beyond 34 weeks of gestation and its pregnancy outcomes. **Summary:** There was a higher incidence of poor fetal outcome and stillbirth in cases of high-risk group. Decreased FM being an indicator of fetal compromise, fetuses with non-reassuring CTG were delivered on admission and thus few of them were managed to have had good perinatal outcomes.

KEYWORDS : decreased fetal movement, obstetric factors, CTG.

INTRODUCTION:

Fetal movements are considered as a sign of fetal life and well-being. Normal fetal movement perceived by women can be a kick, flutter, swish or roll. It is first perceived at 18-20 weeks of gestation by the female.¹ Maternal perception of fetal movements is a self-screening method for assessing fetal well-being and serves as an indirect measure of central nervous system integrity and function. Studies have shown that decreased fetal movement in terms of frequency and strength of the movement is a risk factor for adverse perinatal outcomes like, low birth weight, fetal growth restriction, threatened preterm delivery, preterm delivery, oligohydramnios, congenital anomalies, chromosomal abnormalities, fetomaternal haemorrhage, perinatal brain injuries, disturbed neurodevelopment, intrauterine infections, low Apgar scores and acidemia, hypoglycemia, umbilical cord complications and placental insufficiency, emergency delivery, induction of labour and cesarean section, stillbirths and neonatal fetal distress or stillbirth. Decreased fetal movement has been shown to occur in up to 15% of pregnancies. Women who have a stillbirth have a history of reduction in fetal movement prior to diagnosis in up to 55%. Fetal movement counting by the mother's perception allows the clinician to make appropriate interventions in right time to improve perinatal outcomes. After 28 weeks of gestation, it is treating obstetrician's responsibility to sensitize the pregnant women regarding the importance of counting the fetal movements as it allows early identification, timely evaluation and intervention for fetuses at risk of adverse outcome.²

Association between maternal perception of decreased fetal movement and adverse perinatal outcomes are revealed in different studies. Besides fetal factor, perception of fetal movements can be affected by position of placenta (common in anterior), administration of corticosteroids in antenatal period, cigarette smoking, alcohol intake, use of sedative drugs, increased maternal blood sugar, systolic and/or diastolic blood pressure and even maternal position and activity.³ The decrease in fetal movements is a result of decreased placental flow leading to decreased oxygen in order to conserve energy. In placental insufficiency, there is reduction in fetal movements before intrauterine death.

METHODS OF COUNTING FETAL MOVEMENTS

Various methods have been described for counting and assessing the fetal movements by the pregnant woman.

In the **count-to-ten method** (Cardiff method), ten fetal movements must be counted for a specific period of time every day. If there are less than 10 movements in 12 hours or if more time is needed than the usual for the movements to happen, it may be a sign of fetal compromise.⁴

In the **Sadovsky method**, the woman is counting fetal movements three times a day after meals.⁵

In the **fixed period method**, there is counting of fetal movement for 1 hour every day or every six hours if the situation is anticipated to change.⁶

Normal fetal movements can be defined as 10 or more fetal movements in 2 hours, felt by a woman when she is lying on her side and is focusing on the movement, which may be perceived as 'any discrete kick, flutter, swish or roll'.

Moreover, maternal concern overrides any definition of decreased fetal movements.

MATERIAL AND METHODS:

In this hospital based prospective observational study, 162 women with singleton pregnancy beyond 34 weeks of gestation presenting to emergency ward or outpatient department between January 2021 and June 2022 with complains of decreased fetal movements were included. Obstetric factors were assessed and the patients were followed up and managed till delivery.

RESULTS:

Table 1. Obstetric Factors In Women With Decreased Fetal Movement

S. No.	OBSTETRIC FACTORS	N=162(%)
1	BMI (kg/m ²)	
1a	<18.5	1.20%
1b	18.5-22.9	57.40%
1c	23-24.9	12.90%
1d	25-29.9	22.20%
1e	>30	6.17%
2	Parity	
2a	Primi gravida	60.40%
2b	Multigravida	38.80%
2c	Grandmulti gravida	0.06%
3	Age of gestation	
3a	34-37 wks	41.90%
3b	37-40 wks	56.10%
3c	>40 wks	1.80%
4	Risk status	
4a	Low risk	54.30%
4b	High risk	45.60%
5	High risk	
5a.	HTN	31%
5b.	FGR	22.90%
5c.	GDM	24.30%
5d.	OLIGO	12.10%

5e.	POLY	2.70%
5f.	APH	2.70%
5g.	PLACENTA PREVIA	4.05%
6	Multigravida	
6a.	H/O DFM	32.80%
6b.	No h/o DFM	67.10%
7	NST	
7a	Reactive	77.70%
7b	Nonreactive	22.20%
8	Placenta	
8a	Anterior	58.60%
8b	Posterior	37%
8c	Other	4.30%
9	AFI	
9a	<5 Oligo	19.70%
9b	5-25	74.60%
9c	>25 Poly	5.50%

Table 2. Fetal Outcome In Women With Decreased Fetal Movement

S.No.	FETAL OUTCOME	N=162
1	Live birth	97.50%
2	Stillbirth	2.40%
3	Intrapartum	
3a	SLOC	5.50%
3b	MSL	5.50%
3c	DLOC	3.70%
3d	Short cord	4.90%
3e	True Knot	1.80%
4	Weight	
4a	<2500 gms	14.10%
4b	2500-3900 gms	81.40%
4c	>=4000 gms	4.30%
5	Fetal sex	
5a	Male	59.20%
5b	Female	40.70%
6	APGAR	
6a	Excellent (7-10)	75.90%
6b	Moderately depressed (4-6)	19.70%
6c	Severely depressed (0-3)	1.80%
7	NICU	
	No	75.90%
	Yes	21.60%

Table 3. Amniotic Fluid Index (AFI) And Fetal Outcome

AFI	FETAL OUTCOME		STILLBIRTH%	
	GOOD %	POOR %		
<5	46.8	46.8	2	6.2
25-May	84.2	15.7	0	0
>25	66.6	11.1	2	22.2

Table 4. Non Stress Test (NST) And Fetal Outcome

NST	Fetal Outcome		Stillbirth	
	Good	Poor		
Reactive(126)	89.60%	10.30%	0%	0%
Non Reactive(36)	25%	63.80%	4%	11.10%

DISCUSSION:

Women with high BMI, primiparity, non vertex presentation and anterior placenta have higher incidence of decrease in perception of fetal movement which does not have direct effect on the fetal well being. Obsteric factors associated with decrease in fetal movements affecting the pregnancy outcome are; hypertensive disorder, FGR, GDM, oligohydramnios, polyhydramnios, abruption placentae, duration of decrease in fetal movements, number of fetal movements and reactivity to NST. There are higher incidence of LSCS, umbilical cord complications, poor fetal outcome, lower APGAR score and NICU admission in women with decreased fetal movements.

There was no significant direct relation between gestational age, history of decreased fetal movements in previous

pregnancy, postpartum complications and fetal sex with decrease in fetal movements.

Table 5. Comparison Of Present Study With Existing Studies

	Present study	Saastad et al.	Dutton et al.	Norman et al.
NVD	60.4%			P<0.001
LSCS	40%	P<0.001	1.3%	P<0.001
Stillbirth	2.4%		P=0.21	P=0.088
Birth Weight(gms)	<2500-14.1% 2500-3900-81.4% >=4000-4.3%	Mean-3637 LBW P=0.455	Mean-3300 LBW P=0.21	≤2500- 7.4% >2500to<4000 - 79.4% >4000-13.2%
Fetal sex	M-59.2% F-40.7%	Female RR (95% CI) 1(0.9-1.1) P=0.579	-	M- 51.1% F- 48.8%
NICU Admission	No-75.9% Yes-21.6%	P=0.765	0.7% of cases	P<0.001
APGAR <7 at 1 min	Excellent-75.9% Depressed-21.5%	P=0.006	-	0.45%

CONCLUSIONS

There are higher incidences of LSCS, umbilical cord complications, poor fetal outcomes, lower APGAR score, and NICU admission in women with decreased fetal movements.

There was no significant direct relation between gestational age, history of decreased fetal movements in the previous pregnancy, postpartum complications and fetal sex with decrease in fetal movements.

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