



PERINATAL OUTCOME IN FEMALES WITH REDUCED FETAL MOVEMENTS AT TERM PREGNANCY

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Abstract: **Aim:** The purpose of this research is to determine the impact of reduced foetal movements on delivery methods and poor perinatal outcomes in term-pregnant women. **Methods:** This was a descriptive case series held in the Obstetrics and Gynecology department of C ward, MCHC ATH, Abbottabad for one-year duration from January 2022 to December 2022. Information about demographics (such as name and age), contacts, and pregnancy-related information was gathered (e.g. parity, gestational age). Women who met the requirements for enrollment were selected. **Results:** The age range in this study was 18-35 years, the mean age of all patients was 29.48 ± 3.58 . The average height, weight, and BMI were 1.81 ± 0.17 (m), 90.17 ± 17.06 (kg) and 27.44 ± 2.56 respectively. With a range of 4 weeks (37 to 41 weeks), the average gestational age was 39.01 ± 1.10 weeks. A total of 110 (78.6%) females required induction of labour, 24 (17.1%) underwent C-section, and 14 (10%) of the new borns had Apgar scores below 7 at 5 minutes. **Conclusion:** This study concluded that patients who presented with reduced foetal movements frequently had APGAR scores below 7.

Keywords: Apgar score, perinatal outcome, term pregnancy, reduced foetal movements, gestational age.

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1. Introduction

Fetal movement is a sign of life and is used as a scale of the health of the developing foetus. Mother interprets foetal motions as any kick, flutter, swish or roll¹⁻². Fetal movements (FM) are a well-known predictor of foetal viability and vitality, and normal FM also point to the health of the fetus's musculoskeletal and neurological systems³. Reduced foetal movement (RFM) is the mother's sense of a decrease in the foetus' in utero activity, and it is linked to unfavourable outcomes such as intrauterine death and stillbirth⁴. Fetal

compromise is indicated by the mother's decreased perception of the foetus' movements. Mother must count at least 10 foetal movements each day for a predetermined amount of time using the Cardiff method (count to ten)⁵⁻⁶. Poor foetal outcome may be indicated if there are less than 10 movements in a period of twelve hours or if the mother requires longer time than normal for foetal movements⁷. Woman uses the Sadovsky method to count her baby's movements three times daily after meals. Fetal movements should be counted using the



fixed period approach every six hours or every hour if the condition changes⁸. Reduced foetal movements (RFM) were first identified in cohorts of women who filled out foetal movement charts, and in contrast to the reassurance that normal foetal movements offer, RFM is a significant symptom leading to infant death⁹. A study found that 205 women (16.6%) out of 1029

(83.4%) had undergone two visits due to decreased foetal movements. Repeated visits by women with RFMs at term are largely linked to high second-trimester uterine artery doppler resistance indices and small for-gestational-age newborns. Regardless of the findings of antenatal ultrasounds and doppler evaluation, women who repeatedly complained of RFM should be treated as having a high risk of placental insufficiency¹⁰⁻¹¹. According to a study, IOLs were required in 42.4% of cases, C-sections were performed in 32.6%, and 7% of cases had Apgar scores below 7 at 1 minute. The purpose of the study is to determine the perinatal outcome and delivery method in women who are at term and have decreased foetal movements. There are no local studies on this topic, and there aren't enough studies worldwide either¹²⁻¹³. We might be able to lower the probability of caesarean sections and poor perinatal outcomes by treating cases with RFM.

2. Material and Methods

This was a descriptive case series held in the Obstetrics and Gynecology department of C ward, MCHC ATH, Abbottabad for one year duration from January 2022 to December 2022. Information about demographics (such as name and age), contacts, and pregnancy-related information was gathered (e.g. parity, gestational age). Women who met the requirements for enrollment were selected. The patient's thorough assessment and clinical evaluation were completed and followed-up till outcomes. If there were no uterine contractions and decreasing foetal

movement, labour was induced. If there was any clinical indication, a senior gynecologist planned for a C-section. At the 1st and 5th minutes, the APGAR score was calculated according to the definition. On the designated proforma, the researcher herself collected all of the data. SPSS version 21.0 was used to enter and evaluate all of the gathered data. Maternal age, weight, height, BMI, and gestational age are quantitative variables presented as mean S.D. IOL, C-section, and APGAR score 7 qualitative data were presented in frequency (%). To account for effect modifiers, data were stratified for mother age, parity, BMI, and gestational age. The perinatal outcome measures of C-section and APGAR score 7 were compared between strata using the post-stratification Chi-square test, with a P-value of 0.05 being regarded as significant.

3. RESULTS

The age range in this study was 18-35 years, the mean age of all patients was 29.48± 3.58. The average height, weight, and BMI were 1.81 ± 0.17 (m), 90.17 ± 17.06 (kg) and 27.44 ± 2.56 respectively. With a range of 4 weeks (37 to 41 weeks), the average gestational age was 39.01 ± 1.10 weeks. Table-I.

Induction of labor			
	Frequency	Percent	
Yes	110	78.6	
No	30	21.4	
Total	140	100.0	
Distribution of C-section			
Yes	24	17.1%	
No	116	82.9%	
Total	140	100.0%	
Frequency distribution of Apgar score < 7			
At 1st minute	Yes	26	18.6
	No	114	81.4

At 5th minute	Yes	14	10
	No	126	90

A total of 110 (78.6%) females required induction of labour, 24 (17.1%) underwent C-section, and 14 (10%) of the newborns had Apgar scores below 7 at 5 minutes. Table-II

4. Discussion

Our study's objective was to assess the impact of pregnant women's diminished awareness of foetal movements on perinatal outcome, delivery method, and perinatal death. The majority of the published studies used two different ways to ascertain the relationship between foetal movements and perinatal outcomes, according to study analysis¹⁴. First, the perinatal outcome of pregnant women with diminished foetal movements was compared to pregnant women who perceived foetal movements normally. In the second approach, the perinatal outcomes of women who received information and education about the number and significance of foetal movements in utero and those who did not were compared. Our research is more in line with the first strategy¹⁵⁻¹⁶. The most persistent issue is the rate of stillbirths. We discovered that around 6 studies investigated the correlation between women who reported having lower foetal movements and poor perinatal outcomes, stillbirths, and all of them revealed a positive association between the two¹⁷⁻¹⁸. There were three studies that looked at the association between the mode of delivery and the women's reports of decreased foetal movement perception, and all three indicated a link between increased rates of labour induction and, ultimately, caesarean sections. In our investigation, the same favorable association was also discovered¹⁹. Three studies evaluated the effects of interventions including raising women's awareness of foetal movements and how they may affect delivery methods. One of them found that compared to the control group, women who utilized the foetal

movements counting approach daily had higher rates of interventions like induction of labour and caesarean sections²⁰. Despite recent improvements in obstetrics, stillbirth continues to be a major pregnancy problem. For the past 20 years, the stillbirth rate has decreased only slightly, even in high-resource nations like the USA and the UK²¹. Due to a lack of sensitive or specific testing to appropriately identify high risk women so that appropriate measures may be utilized, there has been no improvement in the stillbirth incidence in rich resource countries. A clinical sign of poor foetal outcome and stillbirth is the perception of diminished foetal movements. With a perceived decline in foetal movements reported for more than 24 hours, intrauterine foetal death (IUFD) is found in up to 50% of cases²². Increasing foetal surveillance for RFM is connected with rise in antepartum cardiotocography (13%) and also increase in induction of labour and caesarean section rates. If a mother perceives diminished baby movements, it is necessary to distinguish between pregnancies that will have a normal outcome and those that are at risk of a poor perinatal outcome in order to avoid the complications and minimize intervention²³. Clinical evaluation may be helpful to identify women who need close monitoring after experiencing RFM and who are more likely to have a poor perinatal outcome. A study found that 47% of pregnant women who reported decreased foetal movements were carrying high-risk pregnancies, which had higher rates of poor BPP and intrauterine foetal mortality at the time of hospital admission than other low-risk pregnancies²⁴. A prospective study emphasizes the need for urgent focus on this crucial area by highlighting the additional burden of care on the health system required by women with perceptions of RFM, which raises the rates of induction of labour, NICU admission rates, and higher needs for surveillance. According to a 2015

retrospective study, clinical evaluation of women's perceptions of

RFM can help identify high-risk women for poor perinatal outcomes²⁵. Women with RFM may be given priority for a thorough clinical evaluation of the health and development of the foetus. As a result, much more work is needed to create new standards in this area, including the inclusion of other variables and additional demographic research.

5. CONCLUSION

RFM is a common prenatal occurrence that is associated with poor perinatal outcomes, including higher rates of induction of labour, caesarean section, stillbirth, and NICU admissions. It is imperative that research be done on the relationship between decreased perception of foetal movements and perinatal outcomes and pregnant women be taught to recognize diminished foetal movements. The healthcare professionals be skilled how to handle patients who have reduced foetal movements and should advise expectant mothers to report any changes in foetal movement at term and educate them about the importance of tracking foetal movements.

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Table II: Comparison of Apgar score <7 at 1st minute & 5 minutes with respect to gestational age (weeks)					
		Apgar score < 7		Total	P Value
		Yes	No		
Gestational age (weeks)	37-38	11(42.3%)	50(43.9%)	61(43.6%)	0.495
	39-41	15(57.7%)	64(56.1%)	79(56.4%)	
Total		26(100.0%)	114(100.0%)	140(100.0%)	
Gestational age (weeks)	37-38	3(30%)	68(52.3%)	71(50.7%)	0.118
	39-41	7(70%)	62(47.7%)	69(49.3%)	
Total		10(100.0%)	130(100.0%)	140(100.0%)	