



The correlation between daily fetal movements count and fetal outcome

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Abstract

Background: Maternal perception of fetal movements is one of the first signs of fetal life and is regarded as a manifestation of fetal wellbeing. Movements are first perceived by the mother between 18 to 20 weeks of gestation and rapidly acquire a regular pattern.

Methods: Hospital based prospective study on 130 pregnant women

Results: 10.77% patients didn't perceive fetal movements after admission. Out of 14 patients with absent DFMC, 6 babies (42.86%) died and 8 babies (57.14%) survived.

Conclusion: The association between DFMC and fetal outcome was found statistically significant.

Keywords: DFMC, Fetal outcome, survived.

Introduction

Motherhood makes a woman complete and childbirth is the most beautiful gift, a woman is endowed with. As obstetricians, our ultimate goal remains to have a healthy mother and healthy child at the end of a normal uncomplicated pregnancy. Regular antenatal care throughout the pregnancy, tailored to a woman's need is required to ensure good outcome.

Maternal perception of fetal movements is one of the first signs of fetal life and is regarded as a manifestation of fetal well being. Movements are first perceived by the mother between 18 to 20 weeks of gestation and rapidly acquire a regular pattern¹. Fetal movements have been defined as any discrete kick, flutter, swish or roll¹. A significant reduction or sudden alteration in fetal movements is a potentially important clinical sign. It has been suggested that reduced or absent fetal movements may be a warning sign of impending fetal death. Fetal movements tend to plateau at 32 weeks of gestation. There is no reduction in the frequency of fetal movements in the late third trimester².

Type of fetal movements may change as pregnancy advances in the 3rd trimester. By term, the average number of generalized movements per hour is 31 (range 16-45). Changes in the number and nature of fetal movements, as the fetus matures, are considered to be a reflection of the normal neurological development of the fetus. Fetal movements are usually absent during fetal sleep cycles, which occur regularly throughout the day and night & usually last for 20-40 minutes. These sleep

cycles rarely exceed 90 minutes in the normal healthy fetus³.

The purpose of this study was to evaluate reduced fetal movements as an effective predictor for the assessment of fetal condition and to improve fetal outcome by early detection of fetal hypoxia, at Department of Obstetrics and Gynecology, SMS Medical College, Jaipur (Rajasthan).

Material and Methods

Type Of Study: An observational study.

Study Design: Longitudinal study.

Inclusion Criteria

- Age 18-35 yr.
- Singleton pregnancy of >37 weeks of gestation.
- Women with decreased fetal movements.
- Women giving written consent.

Exclusion Criteria

- Women with intrauterine fetal death.
- Women in labour.

Statistical Analysis

Continuous variables were summarized as Mean and Standard Deviation whereas nominal / categorical variables as proportion (%).

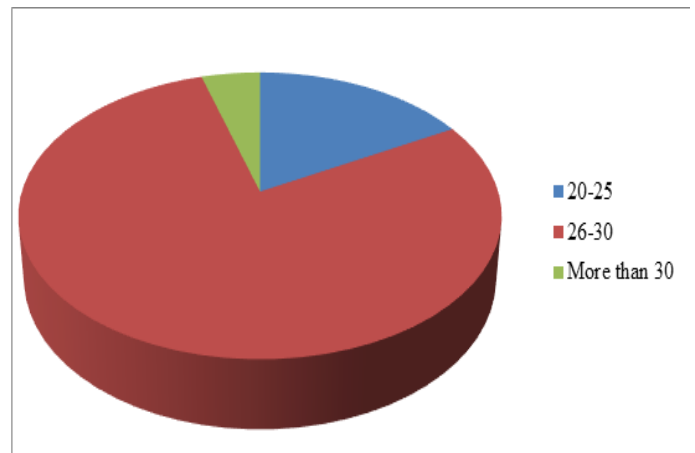
Unpaired 't' test and parametric test were used for analysis of continuous variables while chi-square test / Fischer exact test and other non-parametric test was used for normal / categorical variables.

p-value < 0.05 was taken as significant.

MEDCALC 16.4 version software was used for all statistical analysis.

Observations And Results

Out of 130 women, 78.47% were in 26-30 years age group followed by 16.92% in 20-25 years age group and 4.63% were in more than 30 years age group.



56.15% women were primigravida followed by 22.31% were second gravida and 13.84% were multigravida.

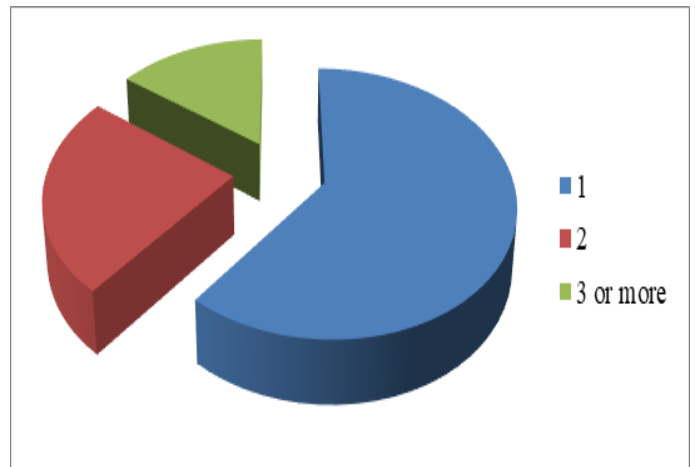


Table 1: Distribution according to perception of fetal movements by mother after admission.

DFMC	No. of women	Percentage
Present	116	89.23
Absent	14	10.77
Total	130	100.00

Table shows that 10.77% women didn't perceive fetal movements after admission despite explaining DFMC.

Table 2: Association of perception of daily fetal movements (DFMC) after admission with fetal outcome

DFMC	fetal outcome		Total
	Survive	Death	
Present	116 (100.00%)	0 (0.00%)	116 (89.23%)
Absent	8 (57.14%)	6 (42.86%)	14 (10.77%)
Total	122 (93.85%)	8 (6.15%)	130 (100.00%)

Chi-square =13.65 df=1 p-value=0.004 Out of 14 women with absent DFMC, 6 babies (42.86%) expired and 8 babies (57.14%) survived. The association between DFMC and fetal outcome was found statistically significant.

Discussion

In our study out of 130 women, 78.47% women were in 26-30 years age group followed by 16.92% in 20-25 years age group and 4.63% in more than 30 years age group. Mean age was 26.5 years. In a study conducted by Syeda. R.M et al⁴ on 50 women presenting with reduced fetal movements, 90% of the women were between 21-30 years.

In our study 72.30% women were in 26-30 years age group because, 26-30 years is the common child bearing age.

Maternal perception of fetal movement is an inexpensive, non-invasive method of assessing fetal well-being. Monitoring fetal movement serves as an indirect measure of central nervous system integrity and function. Short-term observations of the fetus are best performed using real-time ultrasound imaging or Doppler ultrasound⁵. For home monitoring daily fetal kick count may be required. Advocating the use of DFMC chart requires counselling for awareness. Kick count or mild flicker can be explained along with variation due to muscle spasm in winter and liquor quantity.

A healthy fetus should move approximately three to five times within one hour. An alternative method is the Cardiff Count-to-Ten chart, whereby the patient records fetal movements during the course of usual daily activity. A period of 12 hours without at least 10 perceived movements is considered a warning signal⁶. If the test result is not reassuring, the patient should be evaluated with NST and USG⁵.

Out of 14 women, who persistently complained of DFM despite explaining DFMC, 6 had poor fetal outcome. The association between DFMC and fetal outcome was found statistically significant.

It is clear that complaints of decreased fetal movement are significant and warrant further evaluation⁶. The Society of Obstetrician and Gynaecologists of Canada has recommended that DFMC could be used in cases identified to be at risk for fetal asphyxia⁷.

Conclusion

The association between DFMC and fetal outcome was found statistically significant.

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