|| Print ISSN: 2589-7837 || Online ISSN: 2581-3935 ||

International Journal of Medical Science and Diagnosis Research (IJMSDR)

Available Online at www.ijmsdr.com

Volume 3, Issue 1; January: 2019; Page No. 176-179

THE CORRELATION BETWEEN DAILY FETAL MOVEMENTS COUNT AND FETAL OUTCOME AT SMS MEDICAL COLLEGE, JAIPUR RAJASTHAN

Lata Rajoria[1], Usha Poonia[2], Reena Pant[3], Krishna Priya Banerjee[4]

[1]Sr. Professor & HOD, [2]III[rd] Yr. Post Graduate Student, [3,4]Sr. Professor

Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur

Conflicts of Interest: Nil

ABSTRACT:

Background: 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 pattern.

Methods: Hospital based prospective study conducted at Department of Obstetrics and Gynecology, SMS Medical College, Jaipur. Total 130 pregnant women were included in this study.

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 pattern[1]. Fetal movements have been defined as any discrete kick, flutter, swish or roll[1]. 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 trimester[2].

Type of fetal movements may change as pregnancy advances in the 3[rd] 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 fetus[3].

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.

Corresponding author: Usha Poonia

STUDY DESIGN:

Longitudinal study.

PLACE OF STUDY:

Department of Obstetrics and Gynecology, SMS Medical College, Jaipur

DURATION OF STUDY:

April 2017 onwards for a period of one year till desired sample size is reached for data collection and 2 months for data compilation and analysis.

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 labor.

SAMPLE SIZE

Sample size is calculated at 95% confidence level assuming that low birth weight in 50% of the mothers with decreased fetal movements as per results of reference study (IJHRS:VOL3; Issue 7, July 2013).

At absolute allowable error of 10%, minimum 96 cases with decreased fetal movements are required as sample size, which is enhanced and rounded off to 130 cases, as final sample size expecting 30% dropout /loss of follow up/attrition.

STATISTICAL ANALYSIS

Continuous variables were summarised 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

An observational study was conducted at Department of obstetrics and Gynaecology, SMS Medical college, Jaipur from April 2017 onwards for a period of one year.

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.

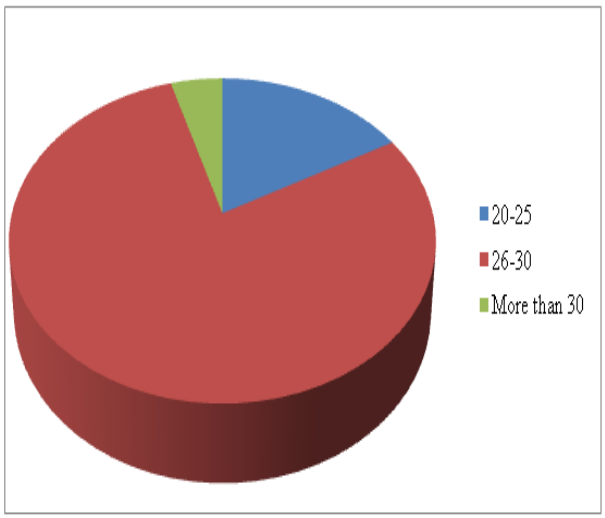

Figure 1:

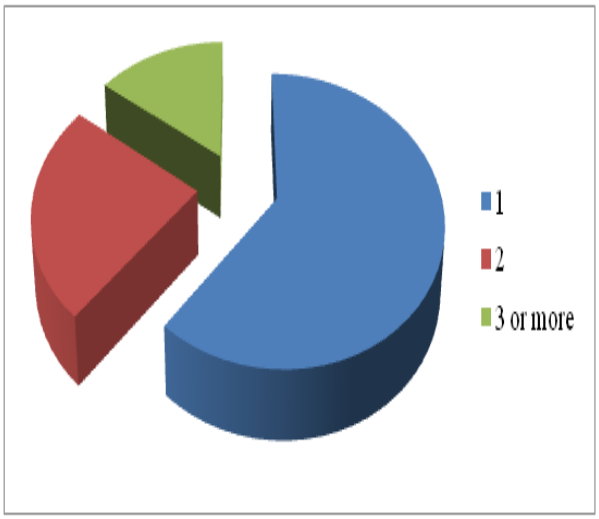

Figure 2:

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

The present study was undertaken to correlate decrease fetal movements with ultrasonography findings and fetal outcome in Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur. This study was conducted on total 130 women.
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 al[4] 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, noninvasive 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 ultrasound [5]. For home monitoring daily fetal kick count may be required. Advocating the use of DFMC chart requires counseling 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 signal [6]. If the test result is not reassuring, the patient should be evaluated with NST and USG [5].

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 evaluation [6]. The Society of Obstetrician and Gynecologists of Canada has recommended that DFMC could be used in cases identified to be at risk for fetal asphyxia[7].

CONCLUSION

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

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