



THE EFFECT OF GESTATIONAL AGE AND MATERNAL FACTORS ON MATERNAL PERCEPTION OF FETAL MOVEMENT

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ABSTRACT

Background: Maternal impression of fetal movement promotes maternal-fetal connection and is an easy, inexpensive, and helpful screening approach to assess the health of the fetus. Before intrauterine problems are formally recognized, women may detect changes in the frequency or nature of fetal movements. The objective is to evaluate how different fetal movement patterns are perceived by mothers in healthy pregnancies with successful pregnancies and how these perceptions relate to maternal factors.

Methods: The pregnant moms of normotensive singletons who underwent successful pregnancies and were referred for prenatal care were the subject of this study. The subjects were asked to count growth of the fetus for a period, three to four times every day and, afterwards a questionnaire was completed. They were also instructed to categorise the violent, rolling, and stretching movements that make up the broader bodily functions (GBM) subtype of doppler ultrasound. In order to eliminate expecting women who arrived preterm or had infants that were too small for their stage of pregnancy from either the experiment, all individuals were tracked throughout pregnancy.

Results: 90.8% of participants reported having experienced GBM, and it was independently linked with maternal unemployment (OR 0.42), gestational age (OR 1.18), and other variables.

Multiparity (OR 1.51), sitting position (OR 0.93), and nighttime FM perception were three findings (OR 0.72).

Conclusions: Most pregnant women can differentiate amongst numerous fetal heart types, many of which have a regularity, even during fourth perinatal trimester. Nonetheless, parental job, gender, and date of experience may have an influence on this capacity.

Keywords: *Maternal Perception, Fetal movement, General Body Mass*

INTRODUCTION

Maternal impression of fetal movement, according to Froen JF, is a simple, affordable, and beneficial screening method to evaluate fetal well-being and fosters mother-fetus relationship (2004). Before mothers formally discover intrauterine issues, fetal movement patterns can alter. According to studies, pregnant women who report experiencing less fetal movements than usual are more likely to give birth prematurely, stillborn, or with fetal growth restrictions (James et al., 2011). Additionally, there is some data that suggests qualitative rather than quantitative changes in fetal movement may occur first.

The regularity and timing of some fetal movements are correlated with the fetus's neurobehavioral development and maturity, according to studies using ultrasound technology (Holm Tveit JV, 2009).



Even though early pregnancy women's impression of doppler ultrasound tends to follow a typical pattern with growing parturition, quantifiable assessment of foetal movements—which does not necessitates parental training—offers a viable strategy to detection and quantification despite the fact that it requires sizable lack of studies in this area (Raynes et al., 2013). As stated in the Green-top Resolution 57 of the Royal College of Family medicine, there hasn't been much study on the foetal brain functions and the mother's impression of foetal action in successful children (Grant B M et al., 2011). More research is needed in this area. Unknown is the percentage of expecting mothers who can recognize particular fetal movements. Identification of these traits is necessary for the creation and understanding of this foetal well-being preventative measure because, similar to mother perceptions of quantifiable doppler ultrasound, female opinion of fetal heart rate type can also be impacted by maternal and foetal variables. As far as we are aware, no studies have examined the relationship between maternal characteristics and the frequent fetal movements that mothers in healthy singleton pregnancies experience. The current study set out to gather information on these subjects in order to better understand how maternal perception of distinct fetal movement patterns and its relationship to maternal features in healthy pregnancies.

METHODS

Pregnant women who had been referred for family planning between years 2021 and 2022 were taken part in this research. 729 expectant women among the ages of 16 and 45, who were approximately 28 and 40 week advanced, participated in the research after giving their informed permission. The independent commission has given its approval for this study. Following enrollment, data from medical records and interviews were entered into each participant's standardized questionnaire. The questionnaire's objective was to collect information on the participants' demographics, their weight - for - age index (BMI) before becoming pregnant, postnatal weight increase, and their job, together with their professional, gynaecological, obstetrical, and communication. Each person's pregnancy has been calculated using echocardiography. The subjects were instructed to urinate the next day while counting fetal movements in a quiet environment for an hour three times a day, after meals. The questionnaires recorded the mother's location, the number of fetal movements observed, and the time the motions were counted. Mothers were also asked to classify the fetus's overall movements, which included rolling and severe stretching. All expectant mothers were observed until deliveries, and indeed the newborns' birth pounds and chronological ages were noted. This was made to keep research participants who gave birth early or with SGA out of the trial.

STATISTICAL ANALYSIS

The statistical program SPSS was used for all statistical analyses (version 18.0.0: PASW, Chicago, IL). The connections and relationships between the variables were looked at using the one-way analyses of volatility, the Kelly's absolute test, the independence populations t test, the Correlation assessment, and the chi-squared interpretation. The degree to which the supplied outcomes were dependent was assessed using multivariate logistic regression. To determine if the relationships and correlations between the



variables were statistically significant, estimated odds ratios (OR), 95% confidence intervals (CI), and p values were employed.

RESULT

Table 1: The associations between several maternal variables and maternal impression of fetal general body movement.

Factors	General Body Movement (GBM) Perspective		Odds Ratio (OR)	95% CL
	Agree (N=662)	Disagree (n=67)		
Maternal Age >30 years	256 (38.6%)	24 (35.8%)	1.12	0.62 2.02
Gestational Age >32 W	390 (59%)	37 (55.2%)	1.18	0.66 2.09
Weight gain >16 kg	133 (20%)	15(22.3%)	0.84	0.41 1.7
Multiparity	360 (54.3%)	30(44.7%)	1.51	1.03 2.67
Employment	84 (12.6%)	18 (26.8%)	0.42	0.22 0.81
Maternal sitting position	191 (28.8%)	21(31.3%)	0.93	0.5 1.72
Night Perception of Fetal Movement	447(67.5%)	47(70.1%)	0.72	0.38 1.35

PERSPECTIVE OF GENERAL BODY MOVEMENTS

Ninety-two percent of the 662 female students think the foetal body was spinning and moving. violent foetal contractions Those moms were 31 weeks along in their pregnancies (OR 1.18), which did not statistically differ from the gestational ages of mothers who were not aware of general body movements. Mothers' characteristics such as multiparity (OR 1.51) and mother unemployment were related to how they perceived general body movement (OR 0.42). Both night-time FM perception (OR 0.72) and sitting position (OR 0.93) were identified.

DISCUSSION

According to the findings of the present study, the majority of pregnant women were able to distinguish



between different fetal movements depending on their gestational age. Fetal movements in pregnant women can be identified by their kind, speed, and force in addition to their amount. More objective techniques, including ultrasound imaging, did not support the types of fetal movements that women were asked to report in the current study (Velazquez MD & Rayburn WF, 2002). The findings of two earlier studies (Einspieler et al., 2005) classified the various types of fetal movement that mothers perceived into four main categories; (Tsubokura H, 2002), in a study of 154 pregnant women, revealed that without any previous teaching, pregnant women might sense and report the variations in doppler ultrasound. Without receiving any prior instructions, participants were asked to explain in their own words how they felt the fetal movements during the course of the pregnancy. In a review of fetal movement studies, Stacey T et al. (2011) shown that to differentiate between fetal growth, consider the force and velocity including whole or limb-only activities. They also provided a summary of how mothers track and discuss baby movement.

CONCLUSION

The majority of pregnant women are able to notice variations in their fetal movement patterns, which frequently have a pattern, throughout the third trimester of their pregnancy. It is vital to keep in mind that the time of perception, the mother's occupation, and parity can all affect how the mother perceives the type of fetal movement while evaluating the health of the foetus with this technique.

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