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Original Research – Qualitative

# Maternal perception of fetal movements in the third trimester: A qualitative description

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### ABSTRACT

**Problem:** Decreased fetal movements is a common reason for unscheduled antenatal assessment and is associated with adverse pregnancy outcome.

**Background:** Fetal movement counting has not been proven to reduce stillbirths in high-quality studies. **Aims:** The aim was to explore a qualitative account of fetal movements in the third trimester as perceived by pregnant women themselves.

**Methods:** Using qualitative descriptive methodology, interviews were conducted with 19 women experiencing an uncomplicated first pregnancy, at two timepoints in their third trimester. Interview transcripts were later analysed using qualitative content analysis.

**Findings:** Pregnant women described a sustained increase in strength, frequency and variation in types of fetal movements from quickening until 28–32 weeks. Patterns of fetal movement were consistently described as involving increased movement later in the day and as having an inverse relationship to the women's own activity and rest. At term, the most notable feature was increased strength. Kicking and jolting movements decreased whilst pushing and rolling movements increased.

**Discussion:** Maternal descriptions of fetal activity in this study were consistent with other qualitative studies and with ultrasound studies of fetal development.

**Conclusion:** Pregnant women observe a complex range of fetal movement patterns, actions and responses that are likely to be consistent with normal development. Maternal perception of a qualitative change in fetal movements may be clinically important and should take precedence over any numeric definition of decreased fetal movement. Midwives may inform women that it is normal to perceive more fetal movement in the evening and increasingly strong movements as pregnancy advances.

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### Statement of significance

#### Problem

Perception of reduced fetal movement is associated with fetal compromise. Qualitative features of maternal perception of fetal movement such as pattern and strength are under-investigated.

### What is already known

Maternal perception of fetal movement is indicative of fetal wellbeing. Women want quality information about what to expect regarding fetal movement.

### What this paper adds

This paper adds a descriptive account of normal fetal movement by pregnant women themselves. Key features are increasing strength of movements, a diurnal pattern and an inverse relationship between fetal and maternal activity and rest.

## 1. Introduction

Maternal perception of fetal movements is an important indicator of fetal wellbeing. Normal fetal activity suggests normal

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cardio-vascular, musculo-skeletal and neurological function. Pregnant women report that it is important for them to feel fetal movements every day and monitor fetal activity regardless of whether or not they have been advised to do so.<sup>1</sup> Women who notice reduced fetal movement worry that their baby might have died.

Decreased fetal movements is a common cause for unscheduled pregnancy assessment.<sup>2</sup> Presentations for decreased fetal movements are associated with adverse pregnancy outcomes including preterm birth, fetal distress, fetal growth restriction (FGR), small for gestational age (SGA), stillbirth, and neurodevelopmental impairment in offspring.<sup>3–7</sup>

Between four and 16% of pregnant women present with a complaint of decreased fetal movements at some point in pregnancy.<sup>2</sup> However approximately 75% of women with a single uncomplicated assessment for decreased fetal movement will have a normal pregnancy outcome.<sup>5,6</sup> Assessment of women with decreased fetal movements has potential to reduce perinatal mortality but may also increase intervention, particularly induction of labour.<sup>8</sup> At the current time there is a paucity of high quality evidence to guide appropriate assessment of pregnancies where women report decreased fetal movements.<sup>2</sup>

High-quality studies have failed to determine a numerical kick count that can reliably be used to screen for and prevent stillbirths.<sup>9</sup> Maternal qualitative perception of a reduction in fetal movements is considered to supersede in clinical importance any quantitative definition of reduced fetal movements,<sup>2</sup> although the nature of qualitative perception of fetal movements by the pregnant woman is under-investigated.<sup>10,11</sup>

Pregnant women may be informed by various sources that it is normal for movements to be reduced at term, deterring consultation for fetal movement concerns. A number of studies have shown that fetal movements are less frequent at term,<sup>12,13</sup> whilst one large ultrasound study showed that bouts of movement were less frequent at term although movements per bout were increased resulting in no change in number of movements overall.<sup>14</sup> Presentations for reduced fetal movements at term in some cases may be due to benign causes such as longer fetal sleep periods with fetal nervous system maturity or the fetal back lying anteriorly.<sup>15</sup> A change in fetal movement pattern is considered important by many midwives but the term 'pattern' in relation to maternal perception of fetal movement is not well defined.

Improved understanding of fetal movement patterns and movement quality at term, as perceived by the pregnant woman is needed, so that women may be properly informed about what to expect in normal pregnancy. This study sought to explore an account of fetal activity over the third trimester by pregnant women themselves in order to better understand any changes that may occur.

## 2. Participants, ethics and methods

Maternal perception of fetal movements is a subjective phenomenon and is known to vary widely between pregnant women.<sup>9,16</sup> To investigate this phenomenon a methodological approach that was both qualitative and embracing of variation was called for. Modern understandings of health, illness and disease have been built up over centuries of observations of symptoms and detailed case study.<sup>17</sup> In order to understand the abnormal one must first understand the normal. The purpose was not to explore maternal perception as a social phenomenon but as a physiological one. A qualitative descriptive account of maternal perception of fetal movements in uncomplicated pregnancy could provide a useful starting point from which to propose further studies in relation to risk groups (Table 1).

Qualitative description, as described by Sandelowski<sup>18</sup> was deemed an appropriate methodology, as the object is to provide a

**Table 1**  
Participant demographics.

Characteristic	n	Mean (range)
Total participants	19	
Age in years		26.5 (19–34 years)
Body Mass Index (BMI)		25.3 (19–34)
Employment status		
Employed	13	
Unemployed	5	
Student	1	
Marital status		
Married	11	
De facto	4	
Single	4	
Fetal sex		
Male	9	
Female	10	
Placental location		
Posterior	10	
Anterior	5	
Posterior/fundal	2	
No data	2	
Infant birthweight		3450 gm (2990–4130)

broad rather than deep description that captures both typical and unusual cases. Morse and Singleton consider 'fit' and essential element of rigour when collecting and analysing data.<sup>19</sup> Qualitative description was deemed to have a good fit with the study aims to explore a broad description of a physiological phenomenon in the everyday terms of those experiencing the phenomenon, namely pregnant women.<sup>18,20</sup>

A pamphlet was produced inviting eligible women to participate in the study, which was left in antenatal clinical waiting rooms. LMC midwives were also approached and asked to pass on information about the study to eligible women in their care. Twenty-one primigravid women were recruited, via five community-based midwifery practices in a provincial city in New Zealand. Women with a singleton pregnancy, under the care of a Lead Maternity Care (LMC) Midwife, and able to speak English were eligible to participate. Women who had conditions warranting transfer to secondary care, as per the New Zealand National Referral Guidelines were excluded.<sup>21</sup> Two participants interviewed were later excluded as not meeting eligibility criteria (one due to parity, one due to high BMI), leaving the final sample for analysis at 19. Participation was limited to primigravid women as it was thought that inclusion of women with previous pregnancies could result in participants making comparisons with previous pregnancies, which though potentially interesting, would add 'noise' without furthering the aims of the study.

Each woman was interviewed twice in the third trimester: early (28–32 weeks) and late (37–41 weeks). The interviews were conducted face-to-face in the setting of their usual ante-natal care, although some repeat (late) interviews were conducted by telephone for ease of the participants. This setting was selected as it was felt to be most like the setting where women would normally share information about fetal movements with their midwife. All interviews were recorded and transcribed for later analysis. Notes were taken during interview, to gather additional non-verbal information such as hand-gestures and facial expressions ensuring rich data. Women were asked to describe how their baby's movements felt, patterns of movements over the day, how the movements felt compared to earlier in their pregnancy and any factors they noticed that appeared to increase or decrease their baby's movements. The first author was the interviewer.

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