

A Study of Labour

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Prologue

This study examines and describes birth from a midwife's perspective. It originated from listening to midwives' discourses around the process of labour and birth in a Delivery Suite environment. The idea began to take shape formally while I was working as a clinical manager in the Delivery Suite of John Hunter Hospital, a large 500 bed hospital. The hospital had been built and opened in the early 1990's. The Delivery Suite included a Birth Centre where women had the option to give birth in a 'homelike' environment but this was not the only option open to women who wished to birth at the hospital. In a medically controlled environment a number of midwives had set up practices in the community as 'independent' midwives. The Medical Director of the Obstetric and Gynaecology Department at the new hospital, Max Brinsmead, had provided support to a number of local midwives to work as independent practitioners. These midwives were granted visiting rights to the hospital. This provided women with the choice of having a continuity of carer throughout pregnancy, labour and birth as well as the choice of birthing in the Birth Centre or in the Delivery Suite. This was progress in what was then, and still is, a medically controlled childbirth environment. In addition, the concept of 'Team' midwifery which had been developed in the United Kingdom was implemented and researched at this hospital by Maralyn (Rowley) Fourer. Midwives in this hospital and the surrounding area were therefore an active and progressive group. Ideas and discussion around midwifery issues and midwifery and obstetric research were always prominent. It was a place that fostered research and innovation and it was the environment in which I found myself 'listening'.

At first, I just listened to the midwives and their use of colloquial expressions to describe women's labours. For example, the expression "We won't be long" was often heard as midwives let me know that they may need another pair of hands at a birth. I would then be aware that if the midwife rang the bell I would be either required to join her at a birth or alternatively care for another woman in labour: a woman for whose care this primary midwife was also responsible. Sometimes, "We won't be long" turned out to be a much longer period than anticipated. After some time, I realised that there were some midwives who consistently got the "We won't be long" right. That is, they appeared to know

instinctively when a woman would give birth. I pondered this fact. Why did some midwives appear to ‘know’ when a woman would give birth and yet other midwives either got it wrong or did not seem to ‘know’?

On reflection, I first thought that this was just a lucky guess, that these midwives got the “We won’t be long” right. But as time progressed it appeared to be more than that, and I became intrigued as to how some midwives ‘knew’ while other midwives often were ‘caught out’. That is, some midwives did not anticipate a birth and suddenly a baby would appear. For example, often a woman would present to hospital and appear not to be in strong labour yet a midwife might comment five minutes later “We won’t be long”. Often these midwives would not examine the women internally, yet within a short period of time the woman would have given birth. This might be expected of a woman who was a multiparous woman, but they were not all multiparous women. Some would be women having their first baby, yet these midwives still appeared to discern this unusually rapid progress. Alternatively, other midwives might examine a woman and finding she was eight centimetres dilated, state “We won’t be long”, but somehow birth would take longer.

An internal examination (vaginal) of the woman in labour has traditionally¹ been used to assess the presentation of the fetus or the opening of the cervix. Since the late 1970’s it has become the standard practice for monitoring labour. I remember as a junior midwife being taught by senior midwives to examine a woman, identify the dilation of her cervix and then estimate (guess) when she would be fully dilated. This was an important step since the midwives in those days advised the doctor (often an obstetrician) when to expect a forthcoming birth. This required practice and a great deal of luck, since the better you became at “getting” the doctor there on time, the greater your chance was at being kept on as a junior staff midwife in labour ward².

The methods used to guess progress were imprecise. I remember one midwife explaining that if the woman was five centimetres dilated she would have five hours to go, if eight

¹ I use the term ‘traditional’ in the sense that this has been documented practice in Western countries during the last 200 years or more.

² The term labour ward has been replaced by the term Delivery Suite in most areas although birthing unit may be more appropriate.

centimetres she might have two hours, but in practice I found this rarely worked.

As one of the clinical managers in the Delivery Suite of this large tertiary referral hospital, I reflected on what I had learnt as a young midwife and then embarked on observing the comments made by the midwives more closely. I observed two interesting features. Firstly, the midwives always appeared to use the term “we” when commenting on labour progress. Occasionally they would use the woman’s name but mostly it was “we”. On reflection, I was not sure if the midwives were referring to the woman and her fetus, the woman and her partner, or even the woman and the midwife; however at the time I did not clarify the terminology. Secondly, labour progress was always described in colloquial terms. For example, I would frequently hear the term “We’re just starting” when a woman was being induced into labour. Other terms midwives used to describe labour progress at lunch breaks or ‘handover’³ were “We’re getting into it”, “We’re getting on with it” and “We’re nearly there”.

Other labour specific language was also used. Often primigravid women would appear to be in strong labour on admission to hospital and yet the comment might be “We’re not going anywhere fast”. At other times when women had been in labour for some time I might hear the comment “We’ve got the idea at last” or “We’re still fighting it”. Occasionally, women would be admitted to hospital and appear to be contracting well, breathing heavily with contractions and the midwife might comment “We have a long way to go yet!”

I often asked the midwives who appeared to have this instinctive knowledge how they knew about the rate of progress. In the early days of asking them they would often look at me oddly and say they just ‘knew’ or “I don’t know...it’s just a gut feeling”. Others would tell me that the women ‘looked’ like they would not be long. Some midwives would tell me they knew because the women were usually quiet, rarely looked at you and appeared to concentrate internally on their labour when a contraction was present. I considered that these midwives had developed an intuitive awareness of the ‘look’ of labour and its progress since these midwives were often older and more experienced. But other midwives

³ A brief summary of midwifery care provided from one midwife to another midwife.

who were younger also appeared to have this ‘intuitive’ gift. In order to gain some answers, I began to read a range of midwifery literature while at the same time began to observe the situation more closely.

At this, and other New South Wales (NSW) hospitals, the assessment of the labouring woman usually, but not always, included a vaginal examination. The results of these examinations were recorded on the partograph⁴. A partograph (described more fully in Chapter 1) is part of the woman’s labour record in most hospitals and is generally used for all women. I say ‘generally’, since some women who give birth within 30 minutes of entering hospital may have had observations recorded but not had a vaginal examination undertaken to assess cervical dilation or to confirm the commencement of second stage. In these cases the cervical dilation portion of the partograph may not have been completed. Yet these midwives still anticipated the birth correctly. That is, these midwives did not use cervical dilation but appeared to judge progress by some other means.

Judgement of progress based on this midwifery ‘sense’ also appeared to be made during early labour by these midwives. For example, women would often be admitted to hospital having contractions every ten minutes or so. If the staff were busy and all the rooms were occupied the women would have her midwifery observations recorded, but no internal vaginal examination performed. That is, the women might have their blood pressure and pulse and the fetal heart rate checked but no assessment of progress made based on cervical dilation. They were rarely commenced on a partograph either. The women would be then encouraged to walk outside or use the courtyard until the contractions became stronger. Midwives would visually check the woman every now and again: if the period was longer than an hour or two, routine observations would also be undertaken. However, once a comment such as “We’re getting into it” or “We’re hotting up here” was made in reference to these women, it was time to juggle space and clear a room for the labouring woman. The woman would only be commenced on a partograph once she was allocated a room, although this was not always so. Interestingly, the commencement of a partograph was often a decision made by individual midwives based on their own judgement. For example, some midwives would not commence a spontaneously labouring woman on a partograph

⁴ A tool used to graph the results of cervical dilation and record other labour observations.

until she was in strong labour or at least had the urge to push. That is partograph was rarely commenced when the woman was having contractions greater than five or six minutes apart, unless perhaps she was a multiparous woman or was being induced into labour.

The colloquial terms used by these midwives appeared to describe labour progress more realistically and accurately than the state of the dilation of cervix and its measurement. I would occasionally see a midwife, without this instinctive knowledge, caught out when they made a comment about rapid progress, particularly after performing a vaginal examination. Often pain relief was either requested or suggested, particularly if the woman was distressed or noisy, and by the time the midwife had collected the medication there would be a baby's head on view. Or the midwife might leave the labouring woman's room to collect a heat pack or a glass of water for the woman and the same thing would occur: the woman would start to give birth to her baby. In other cases they were called back by a sudden ringing of the call bell by a frantic partner. These examples highlight that some midwives missed these intuitive cues and relied only on the results of the cervical dilation examination to assess labour progress.

After reading widely across the midwifery literature I came to the conclusion that the knowledge that these 'intuitive' midwives were using were conscious or unconscious observations of the women's behaviours during labour. This position developed after reading some American nurse-midwifery⁵ literature which identified that women changed their behaviours during each phase of labour (see for example Bleier, 1971; Gaskin, 1980). The literature that described women's behaviours appeared to originate around the 1970's. This was around the same time as the partograph became the universal tool to use in labour wards to monitor progress. The American literature described specific labour behaviours within these phases of labour and linked these behaviours to the cervical dilation range and type of contractions to expect. I could not however identify a primary source or research study on which this literature was based. Thus the journey into exploring the assessment of labour by midwives began.

⁵ The term "nurse-midwife" is used by American health professionals to identify nurses who have also trained as midwives.

Like all journeys this study has had its challenges. The first challenge was to identify the best method in which to collect the data. Two methods were available: video or constructing a research tool. The decision to develop a research tool to collect the data rather than video tape women's labours was made after much discussion. My colleague, Helen Callaghan was, at the time, in the process of using a fixed video to collect the data for her study (Callaghan, 2002). Since we were both working in the same hospital it would have been economical to use her equipment. After discussions with Helen I realised that I might not be able to assess women in all areas (bath and shower) if I used a fixed video. In addition, a fixed video would not capture women's expressions if they had their backs to the camera. The alternative, collecting data using a hand held video required expertise: something I did not have.

Once the decision was made to construct a 'tool', the second challenge was deciding which method to use to identify the descriptors. I could consider either obtaining the behavioural descriptors through focussed group interviews with midwives or undertaking a content analysis of the literature. The literature review had revealed that there was sufficient information about labour behaviours to use this as the method for developing a list of behavioural cues for each phase of labour. A content analysis of the midwifery and medical literature provided the descriptor cues for the tool however this work showed many overlapping descriptors. That is, most descriptors crossed two or more boundaries of each phase of labour. I had planned to use the content analysis as a taxonomy within the research tool, however the results provided evidence that this was not appropriate. The descriptors items did however form the base for the research tool.

During the initial planning of what items to place on the tool I investigated the possibility of including a section exploring the 'red line' as a method of assessing labour progress (see Byrne & Edmonds, 1990). I had also planned that the data would be collected by an observer therefore including this on the research tool was considered too invasive.

A labour assessment tool (LAT) was ultimately developed based on the descriptors and refined using an expert group process. The tool was trialled, refined again and the data collected at two hospitals over a three year period. The analysis, although interesting, provided mixed results. On reflection, it appeared that I was either attempting to explain the

results based on the phases of labour which had definite boundaries of cervical dilation measurements or into labour defined by periods of time to full dilation. Some behaviours did fit into a short time scale and others fitted into a longer time scales. No definite boundaries could be easily pin-pointed.

It was then that I realised that I had come full circle. When the graphs of each group of behaviours were visually examined, the major curves or changes changed, depending on the behaviour. For example, there may have been some distinct changes within an hour of full dilation for single behaviours which continued more frequently into second stage, while another descriptor would change two hours prior to full dilation, a third might not change at all. Trying to fit behaviours into timeframes or dilation ranges provided mixed results. But visually one could classify areas within each descriptor set that better fitted the colloquial terms used by the midwives to describe labour. For example in the “nearly there” expression I was able to describe the changes to a descriptor that occurred within a short time period of and at full dilation and again later in the “end is in sight” stage those of second stage progress. This process provided the majority of findings for each descriptor set for both induced and spontaneous labours. Additionally, it enabled a description of drift within each category.

I noted that the choice of terminology did not apply equally to induced and spontaneous labours. For example, “starting out”, appeared only to relate to women who were being induced into labour. Women who were in spontaneous labour commenced labour at home. Likewise, the term “got the idea” appeared to relate only to nulliparous women who were in spontaneous labour and may have entered hospital in very early labour. The terms “getting into it” and “hotting up” appear to be interchangeable. Two terms “fighting it” and “no idea” have not been included in this categorisation. They require further investigation. Applying this content process of categorisation to each of the behavioural descriptors provided a descriptive guide to labour and built another picture in which ultimately, I was able to develop an alternative model of labour progress. This model is ‘flowing’, is not divided by boundaries of time or cervical dilation, and encompasses pregnancy, labour and birth as a continuum.

This study therefore describes and authenticates a different sort of knowledge: the knowledge of working with and listening to women's bodies during labour and birth. Women's bodies, their behaviours, and verbal and nonverbal communication modes are compared in this thesis to the accepted medical depersonalised model of labour progress (the partograph) which is based on empirical work undertaken at a time and place very different from most contemporary women's experience. I would describe this as 'midwifery' knowledge. The use of the partograph does not report the woman's experience or response to labour. In this assessment the woman is invisible. She makes no sounds, no expressions and no movements. She is not there. Only her labour (contractions) and its progress (cervical dilation and descent of the fetal body) are detailed conceptually on a visual display (partograph).

This study therefore brings the woman back into her labour and its progress. It combines previously reported though not empirically tested knowledge written in midwifery and medical textbooks on the progress of labour (nonverbal and verbal behaviours) to assess whether these observations are "legitimate" knowledge and predictors of the women's progress. These behaviours have been linked in this study to the dominant medical methods of monitoring labour progress (cervical dilatation) to assess the outcomes and to see how and if a relationship occurs between the two.

ABSTRACT

The partograph, developed over 50 years ago and based on research conducted by Friedman (1954, 1955 & 1956), has been promoted by the World Health Organisation as the “gold” standard for assessing progress in labour. The basic premise of the partograph is that regular vaginal examinations throughout labour that calculate the extent and rate of cervical dilation will be the most reliable indicator of labour progress.

A review of the medical and midwifery literature suggested that the progress of labour can also be assessed by observing women’s behavioural responses to labour. This study set out to describe and test the reliability and consistency of these behavioural cues. These cues were derived from published literature and used to construct a “Labour Assessment Tool” (LAT). The LAT was tested and modified using an expert reference group and results of a pilot test. Inter-rater reliability was established during the pilot study and verified with other experienced midwives as data collectors. The LAT recorded partograph observations as well as labour behaviours.

The study was undertaken in two Australian hospitals between 1999 and 2002. Women were given information on the study during regular antenatal visits to the hospitals from 30 weeks gestation and invited to participate during one of their antenatal visits between 37 weeks and 42 weeks of pregnancy. There were 21 women of the 225 women approached who declined to participate. The LAT observations were recorded on 203 participants however only 179 participants (94 nulliparous and 85 multiparous women) who generated 47,768 individual observations were suitable for analysis. There were 59 participants (31 nulliparous and 28 multiparous women) who were induced into labour or had their labours augmented. Women excluded from the study included those with complications of pregnancy and labour. Women were also withdrawn from the study at the time an epidural was commenced but their data to that point were retained for analysis.

The data were examined from three perspectives. The first was from a ‘phases of labour’ perspective based on the work of Friedman (1954; 1955). Data obtained at the time the

women had an internal cervical assessment were allocated to early labour, active labour, transition or full dilation, based on the results of the cervical measurements. The second perspective examined all the descriptors over the course of labour from admission to hospital or the beginning of an induction of labour, to second stage of labour. Frequencies were again generated for each behaviour from admission to hospital until full dilation. They were compared to the mean dilation generated for both parity groups based on the 279 cervical examinations that were performed on the participants. The third perspective examined behavioural patterns observed within each woman's labour unrelated to the time to full dilation or Friedman's phases of labour model.

Results indicate that specific behavioural descriptors associated with progress were observed before cervical dilation increased. Descriptors' indicating cervical dilation was occurring, or had occurred, and descriptors indicating impending second stage as well as second stage itself, were identified. Differences were observed between the labours of multiparous and nulliparous women and induced labours and non induced labours.

The study identified two categories, "condensed" and "varied" labours. Women's labours that were "condensed" appeared to be intense with many multiple behaviours. These labours were associated with induced labours and non induced multiparous women. "Varied" labours had more single descriptors recorded over a longer period of labour with only short periods where two or more descriptors occurred simultaneously. Non induced nulliparous women had more descriptors associated with "varied" patterns which appeared to be less distressing than the condensed labours.

The results have been synthesised into a model for assessing labour progress that describes a chronology of late pregnancy, labour and birth as a flexible continuum with overlapping patterns of behaviours ranging in intensity and overlap according to the rate of progress. The resulting constellations of behaviours and have been labelled with the language used by experienced midwives as "starting out"; "getting into it"; "getting on with it", "nearly there" and "the end is in sight"

The results of the study have confirmed that midwives 'watching' and 'listening' to women during labour provide a valid and useful description of the progress of labour. This study

suggests that the assessment of cervical dilation ('touch') in isolation, or as the only marker of progress of labour, may lead to inaccurate prediction of progress.

GLOSSARY

Active labour -The phase of labour described by Freidman (1955) as the acceleration phase. Begins around three centimetres of cervical dilation and ends at about eight centimetres of cervical dilation.

Active management of labour - A term coined by obstetricians at the National Maternity Hospital in Dublin to describe the policy developed to reduce the duration of labour and therefore the stress of labour. Labour is accelerated by artificial rupture of the membranes followed by intravenous oxytocin if the cervical dilation rate does not exceed one centimetre per hour. Women are guaranteed not to have labours lasting longer than 12 hours (O'Driscoll, Stronge, & Minogue, 1973).

Cervix –The part of the uterus that extends into the vagina and contains a canal.

Cervical dilation – The progressive opening of the cervical canal from less than one centimetre to approximately 10cms during labour.

Contraction- Tightening and shortening of the uterine muscles during labour. Results in effacement and dilation of the cervix

Contraction duration- The length, measured in time, of each contraction.

First stage of labour- Labour has traditionally been defined as having two stages. The first stage, which commences with the onset of regular contractions and results in a progressive dilation of the cervix ending when the cervix is fully dilated and the second stage which extends from full dilation until the birth of the baby. The first stage has been divided into three phases: the latent phase (or early labour), active phase and transition.

Labour - The process called childbirth, parturition (Tiran, 2003) or confinement. It is the process by which the fetus is expelled from the woman's body.

Latent phase – is the first part of the first stage of labour as described by Friedman (1954). It is also known as early labour. It commences with regular contractions that slowly dilate the cervix from little dilation to less than four centimetres of dilation.

Multipara (adj. multiparous) – women who have given birth to more than one viable infant

Nullipara (adj. nulliparous) - a woman who has never given birth to a viable infant however, she may have had a termination of pregnancy or miscarriage (Tiran, 2003).

Primigravid – a woman who is pregnant for the first time.

Primipara (adj. primigravid) – a woman who has given birth to one live or stillborn infant

which has been classified as viable (Tiran, 2003).

Second stage of labour -This stage begins with complete dilation of the cervix and ends with the birth of the infant or infants (Enkin et al., 2000) and is often referred to as the expulsive or pushing stage (Tiran, 2003).

Stages of labour -There are three stages of labour. These are first stage (which is divided into three phases), second stage (the actual birth process) and third stage in which the placenta and membranes are expelled.

Transition – The phase termed by Friedman (1955) as the deceleration phase of active labour. It is the phase, which is between eight centimetres and ten centimetres of cervical dilation.

Viable infant – The definition of this term that changes over time and differs from country to country⁶. This study uses the New South Wales (Australia) definition of a viable infant. That is an infant who weighs more than 400gms, or who has a gestation of 20 weeks or more at birth.

⁶ For example, in the United Kingdom since 1992 a stillbirth in England is a child that has been delivered after 24 completed weeks and has not shown any sign of life (Frazer & Cooper, 2003).