

The vaginal examination during labour: Is it of benefit or harm?

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ABSTRACT:

Giving birth is an important life event and care practices that occur during labour and birth can have a lasting influence on the mother and the family (Beech & Phipps, 2004). The use of regular, routine vaginal examination to assess the progress of labour is one such care practice. There are two ways of viewing the vaginal examination during labour. The first regards the vaginal examination as a physically invasive intervention which can have adverse psychological consequences (Kitzinger, 2005). The second sees vaginal examination as an essential clinical assessment tool that provides the most exact measure of labour progress (Enkin et al., 2000). This paper explores these two viewpoints in more detail and discusses the benefits versus the harms of undertaking a vaginal examination during labour. Midwives use a variety of skills and observations to assess labour progress. The vaginal examination is an important clinical assessment tool that should be used carefully when there is a need for more information to help understand labour and whether it is established and progressing, taking into account both the potential harms and benefits.

KEY WORDS:

Vaginal examination, intervention, physiological labour, labour progress, assessment tool, midwives, partogram.

INTRODUCTION

For most women childbirth is a time of transitions and major life changes. Giving birth is a dramatic life event which has a profound influence on a woman and can create both positive and negative emotions (Beech & Phipps, 2004; Edwards, 2005). Birth is a physiological process that can be shaped and influenced by societal expectations, culture and emotions and is seldom just 'a biological act' (Davis-Floyd & Sargent, 1997). During pregnancy and birth women will come into contact and have care provided by midwives and/or the medical profession. Care that is provided during labour has the potential to influence the labour and has an impact on the woman's feelings about her labour and birth (Beech & Phipps, 2004). Midwifery has a philosophy which seeks to sustain the health of the woman and baby throughout the childbirth process and provide holistic care which considers the social context and personal identity of the woman (Lane, 2006). Within this philosophy is the need to promote and facilitate the physiological processes of birth (NZCOM, 2008) and to keep clinical intervention during the birth process to a minimum (NICE, 2007).

DEFINING INTERVENTION

Generally when we consider clinical interventions we discuss practices such as artificial rupture of the membranes (ARM), intravenous syntocinon to accelerate labour, epidural anaesthesia, instrumental and caesarean births (Tracy, 2006). In many countries the rates of these types of intervention are increasing, whilst the rate of normal birth is decreasing (Tracy, Sullivan, Wang, Black, & Tracy, 2007). Interventions of various kinds have become a routine part of intrapartum care with only a small number

of women achieving birth with minimal intervention (Tracy, 2006; Waldenstrom, 2007). Whilst there is general agreement that ARM, augmentation of labour and instrumental births are clinical interventions, there are many other acts or care practices that could also be considered an intervention (Kitzinger, 2005). The New Penguin English Dictionary defines intervention as the act of intervening, and to intervene is to come in or between things so as to hinder or modify them (Allen, 2000). If we consider a physiological birth to be one in which the woman is able to labour and give birth in her own space and time, with no interference to her physiological rhythms, then any care practice that hinders or modifies this could be considered to be an intervention (Kitzinger, 2005). This would suggest that many actions undertaken by a midwife during labour could also be considered an intervention. One such care practice is the vaginal examination which can be undertaken frequently and routinely during labour (Cheyne, Dowding, & Hundley, 2006). In order to undertake a vaginal examination (also known as an internal) the midwife must break the woman's concentration and interfere with the rhythm of her labour. She must ask the woman to adopt a position in which the examination can be undertaken and then perform what is an intrusive and very intimate examination. It has the potential to cause distress and pain both physically and psychologically.

On the other hand, many would argue that the vaginal examination is an essential clinical assessment tool which can provide reassurance to both the mother and the midwife that the labour is progressing towards the birth. A woman may ask the midwife for a vaginal examination as it reassures her that she is making progress. Whilst the majority of labours will progress physiologically towards the birth, for some women this may not be the case. The vaginal examination can provide information which can be used to confirm normality or identify pathology. Regular cervical assessment by means of a vaginal examination can provide a measure of labour progress reassuring both

the midwife and the woman that labour is progressing toward the birth in a normal way.

How should midwives view the vaginal examination during labour? Is it an intervention or an essential clinical assessment tool? This paper examines this dichotomy in more depth by reviewing the research around vaginal examination and labour progress. The arguments for and against vaginal examinations are examined, along with a discussion on the benefits versus harms of undertaking vaginal examination during labour.

BACKGROUND

Defining labour progress

The seminal work defining labour progress was undertaken during the 1950s by Emmanuel Friedman an American obstetrician. He argued that of all the observable events that occur during labour such as uterine contractions and descent of the presenting part, it was cervical effacement and dilatation which he identified as being the most appropriate measure of overall progress (Friedman, 1954). The concern was that a prolonged labour increased the incidence of adverse outcomes for the mother and the baby. Time parameters were defined so that abnormalities of labour progress could be identified and action taken. Friedman developed a cervicograph to provide clinicians with an objective way of measuring labour progress (*ibid*) and which was later developed to become the partogram. However, whilst Friedman described labour progress in what he considered a 'normal labour' the understanding of what constituted normal was culturally influenced. The expectations and understanding of labour during the 1950s were vastly different to our contemporary understanding of physiological birth. In his sample Friedman did not exclude women with malpresentations, malpositions or multiple pregnancies and the usual care practices of the day were to give women enemas, pubic shaves and high levels of strong medication. Women were left alone, unsupported and expected to labour on their beds. Subsequent research has developed our understanding of the complexity of labour and how the interplay of hormones (which are necessary for labour to move towards birth), can be influenced by isolation, lack of emotional support, and the inability to move with contractions into positions in which gravity assists labour (Buckley, 2005; Enkin et al., 2000; Foureur, 2008; Odent, 2001).

Whilst many still consider a dilation rate of 1cm an hour to be the norm for labour based on Friedman's curve (Arya, Whitworth, & Johnston, 2007), this rate of cervical progress has been challenged by more recent research from both midwives and obstetricians (Albers, 2007; Gurewitsch et al., 2002; Lavender, Hart, Walkinshaw, Campbell, & Alfirevic, 2005; Zhang, Troendle, & Yancey, 2002). Albers (2001) used nine midwifery sites in the USA in which there were care measures to keep birth normal such as social support and non pharmacological methods of pain relief, activity and position change. With data from these centres she was able to calculate descriptive statistics collected over one year from 2,522 women. Her results demonstrated a slower progress of labour without an increase in complications for the mother or baby. She suggests an alternative rate of cervical dilatation of between 0.3cm and 0.5cm per hour (Albers, 2001).

Zhang et al (2002) analysed retrospective labour information from 1329 nulliparous women provided with contemporary obstetric care. Their sample included women with epidural analgesia and oxytocin augmentation. Whilst these interventions would not usually be considered a part of physiological birth, the authors argued that they wanted to provide parameters of contemporary childbirth. Their results demonstrate marked differences to the Friedman curve. They found the cervix dilated at a substantially slower rate in the active phase than Friedman's curve, taking twice as long to dilate from 4 to 10 cm (5.5 hrs versus 2.5hrs). They suggest that it is not uncommon for there to be no perceivable change for more than two hours prior to 7 cm and that the rate of cervical dilatation was below 1 cm per hour. They conclude that the criteria for diagnosing prolonged labour or dystocia are currently too stringent for nulliparous women (Zhang et al., 2002).

In their observational, longitudinal study of 403 multigravid women in spontaneous labour, Lavender et al (2005) found that progress was dependent on the initial cervical dilatation at presentation in labour. They conclude that a universal definition of failure to progress and therefore pathology during labour is inherently difficult to identify because labour is a complex combination of physiological and psychological processes.

Albers (2007) argues that with an improved understanding of the physiological processes of labour there is a need to ensure patience with the labour process. The first stage of labour is far slower than 1cm/hour and a rate of 0.5cm an hour can be considered normal. Whilst for

some women a rate of 0.3cm an hour may also be considered normal but consideration of other factors such as the frequency and quality of uterine contractions and state of wellness of mother and baby should also be taken into account (Albers, 2007).

Our understanding of labour progress has been developed without input from women and may not resonate with the woman's actual experience of labour as it progresses to birth. Labour is a unique process which only women who labour and give birth have experienced. Any theory of labour progress should be able to describe physiological labour as experienced by women. Walsh (2007) argues that the early descriptions of the rhythms of labour are based on clinicians' knowledge and are not woman centred. Midwives have invented euphemisms for early labour because to record a long length of labour puts the woman at risk of intervention once admitted to hospital (Walsh, 2007). For midwives it is important that our understanding of labour progress remains woman centred and incorporates the woman's perspectives and understanding of labour progress.

Frequency of vaginal examination

With labour progress defined by measurement of cervical dilatation the question arises as to how often the measurement should be undertaken. At present there is little consensus on the optimum timing of vaginal examination during labour (Enkin et al., 2000). In practice there is a range of frequency with some studies describing vaginal examinations being undertaken as often as every two hours (Lavender et al., 2005; Pattiinson et al., 2003), whilst Albers (2001) stated that in her study clinicians undertook a vaginal examination 'periodically', when maternal behaviour or clinical signs suggested a need for one.

Partograms to monitor normal labour progress

When measurement of the cervix has been undertaken there is a need to record and assess progress. Many countries and hospitals use a partogram to record and assess whether labour is progressing within normal parameters. Based on Friedman's (1954) original cervicograph, the partogram was developed to enable clinicians to identify labour dystocia (Philpott & Castle, 1972). However the benefits or harms of using a partogram are still under debate (Lavender & Malcolmson, 1999). There is little consensus about the use of the partogram and a variation in types of partogram used in many units in the United Kingdom and around the world (Lavender, Tsekiri, & Baker, 2008). There are

concerns that rigid interpretation of cervical dilatation without consideration of other indicators of labour progress could result in increased levels of other clinical interventions (Albers, 2007; Lavender, O'Brien, & Hart, 2007). Many partograms have an expectation that regular vaginal examination is done routinely and regularly (every four hours) so that the progressive dilatation of the cervix can be assessed, monitored and documented.

In many countries intrapartum care is provided by multiple caregivers (Hodnett, 2000) and women receive care in an unfamiliar hospital setting from midwives who are not known to them (Albers, 2007). In these circumstances there can be differences between how each midwife provides intrapartum care as well as how they interpret the progress of labour. In these situations using a partogram can be a valuable means of exchanging information and it can help in the handover of information between caregivers, other health practitioners and between shifts (Lavender & Malcolmson, 1999). By providing a visual representation of the labour it can be a mechanism for ensuring that the capture and exchange of information is available in a pictorial/graphical format. The partogram can be a valuable mechanism for standardising labour care especially when there are multiple caregivers who have no pre-existing relationship with the labouring woman.

Arguably, when there is continuity of midwifery care – as there is in New Zealand for the majority of women (Ministry of Health, 2007), midwives can observe and individualise care for that woman depending on the labour, their observations of the labour and the preferences of the woman. In New Zealand the Midwives Handbook for Practice (2008) states that the midwife should identify when there is a need for vaginal examination and discuss this assessment with the woman (NZCOM, 2008). Decisions and care provision during labour should be based on individual needs with midwifery care provided accordingly (ibid). In contrast, in the United Kingdom (UK) where there is less continuity of carer and a higher likelihood of multiple caregivers during labour, the NICE guidelines for intrapartum care (2007) recommend that vaginal examinations be undertaken regularly and routinely (every four hours) once labour is established to ensure that the labour is progressing towards the birth (NICE, 2007).

The United Kingdom and New Zealand have different models of midwifery care which influences how midwives within these countries practice. However, regardless of where a midwife practices there remains a concern within the

midwifery profession of how we define and monitor physiological birth. If we accept that the vaginal examination is an intervention, is it a tool that should be used in a regular, routine way to ensure that labour is progressing?

In their exploration of the nature of childbirth knowledge, Downe and McCourt (2004) suggest that, when assessing whether an intervention should be undertaken for an individual, the extent of the benefit or harm should be considered along with other aspects of the physical, social, spiritual and psychological environment (Downe & McCourt, 2004). What then are the benefits and what are the issues or concerns that could cause harm to the mother or child when undertaking a vaginal examination?

THE BENEFITS VERSUS THE HARMS OF THE VAGINAL EXAMINATION

Benefit and rationale for undertaking a vaginal examination

Whilst the majority of women will have a physiologically normal labour and birth there are a minority who will not. Understanding when a labour has deviated from the normal physiological processes and the reasons for the deviation are important (Thorogood & Donaldson, 2006). Vaginal examination provides a variety of information, such as fetal presentation, position and descent of the presenting part along with information on cervical effacement, consistency and dilatation of the cervix (Thorpe & Anderson,

these factors can be variable, overall the vaginal examination is an important skill that midwives should develop and which can help them to interpret labour rhythms and signal deviations from the physiological process. Indeed for many midwives it has been the use of the vaginal examination that has helped them to develop their skills in observation of labour by improving their abilities to understand the signs of labour progress that may vary with each woman. For newly graduated or less experienced midwives the vaginal examination can be seen as a means of developing an improved understanding of each individual woman's labour as it progresses towards birth. Having the skills to understand and interpret labour is important to midwives and is developed through the experience of working with and being alongside women during their labour.

Psychological harm and physical pain

Vaginal examination can be distasteful for some women due to the intimate nature of the examination and can be very distressing for others (NICE, 2007). Devane (1996) suggests that prior to childbirth, women regard the vagina as mainly associated with sex and therefore has a sexual function but during labour and with the first vaginal examination it changes status as the role of the vagina for giving birth becomes more significant. He argues that the vaginal examination can cause anxiety and be embarrassing for both the woman and the midwife (Devane, 1996).

THE VAGINAL EXAMINATION IS AN IMPORTANT SKILL THAT MIDWIVES SHOULD DEVELOP AND WHICH CAN HELP THEM TO INTERPRET LABOUR RHYTHMS AND DEVIATIONS FROM THE PHYSIOLOGICAL PROCESS

2006). When put into the context of what is happening to the woman and her labour with regards to the length, strength and intensity of the contractions, the midwife can improve her understanding of that individual woman's labour. Whilst interpretation of

However, for some vulnerable women the vaginal examination can be more than just embarrassing, it can cause feelings of loss of control and have psychological sequelae. Parratt (1994) undertook a small qualitative study exploring the childbirth experiences

of women who were survivors of incest. She found that intimate touch could be linked to unpleasant associations for these women. Many aspects of childbirth triggered memories of the incest, however internally and touching of the vagina during labour caused feelings of vulnerability and loss of control (Parratt, 1994). Parratt's research is supported by Robohm & Buttenheim (1996) who explored the gynaecological care experiences of adult survivors of childhood sexual abuse, compared with non-abused women. Using a self-administered survey they found that the survivors reported more intensely negative feelings during a vaginal examination than did the non-abused women (Robohm & Buttenheim, 1996).

Menage (1996) investigated whether trauma experienced during obstetric and gynaecological examinations could lead to post-traumatic stress disorder. She found that out of a self-selected sample of 500 women, 100 gave a history of an obstetric or gynaecological procedure that they found was distressing or terrifying. Of these 100 women, 30 fulfilled the criteria for diagnosis of post-traumatic stress disorder. These women described feelings of powerlessness during the procedures, felt that they had been given inadequate information, had experienced physical pain and found an unsympathetic attitude on the part of the examiner. Nine of the women had a past history of sexual abuse or rape in addition to the obstetric or gynaecological trauma (Menage, 1996). Despite the small sample sizes and the subjectivity of the participants these studies provide an important insight into how intimate touch can be perceived by vulnerable women during childbirth.

The behaviour of midwives when undertaking a vaginal examination also suggests a level of embarrassment as well as possible issues around power and control. In her study exploring the midwives and women's experiences of vaginal examination in labour Stewart (2006) found that the midwives' behaviour suggested high levels of discomfort when undertaking a vaginal examination. Stewart (2006) used a critical ethnographic approach to focus on how the vaginal examination is discussed with the woman and how it is undertaken in practice by midwives. She found two main themes that she describes as sanitisation through action and verbal sanitisation (Stewart, 2006). Stewart suggests that midwives use a number of verbal and physical strategies to distance themselves from vaginal examinations. These included the use of abbreviations or euphemisms, whilst some midwives also used a ritualised method

of washing the woman's genitalia. This she argues could be a strategy to establish power differentials (*ibid*).

Bergstrom and colleagues (1992) also found issues of ritualisation of the procedure and the exercise of power over the woman by the caregiver during labour in their USA-based ethnographic study. They examined the frequency and use of the vaginal examination during the second stage of labour (Bergstrom, Roberts, Skillman, & Seidel, 1992), revealing a variation of between two and 17 vaginal examinations whilst for one woman the procedure was done following every contraction. The stated purpose of using a vaginal examination during the second stage was to assess the woman's bearing down efforts and to teach the woman how to push correctly (*ibid*). Bergstrom et al (1992) question the necessity of the procedure at this time and suggest that the vaginal examination sends an implicit social message communicating the power and authority of the caregiver. They argue that this demonstrates an inherent philosophy of distrust in the woman's ability to give birth unaided (Bergstrom et al., 1992).

Both Bergstrom et al., (1992) and Stewart (2006) have used a critical feminist approach within their research. In this approach women are viewed as oppressed by a patriarchal culture. Women's experiences are the focal point of the research and the issue is understood from the woman's viewpoint. Issues of power and gender control can be identified more easily using this approach.

Contrast this approach to that taken by Lewin and colleagues (2005) in a quantitative survey of primigravid women and their perceptions of the vaginal examination. The focus of this small survey of 73 primiparous women was to explore the women's perceptions of vaginal examination during labour in three different maternity units in the UK (Lewin, Fearon, Hemmings, & Johnson, 2005). Respondents were asked to fill out a questionnaire posted to them within a month of giving birth. The questionnaire had statements about vaginal examination from which the women could indicate a range of responses in agreement or disagreement (using a Lickert scale). The results suggested 'an encouraging measure of contentment with the privacy, dignity, sensitivity, support and frequency with which vaginal examinations in labour were managed' (Lewin et al. 2005 p 267). The use of a questionnaire restricted the ability of the women to provide information in their own words and therefore provide real insight into their views. Despite this, nearly

half of the women reported that the vaginal examination was painful and distressing at some point with 42% reporting it would have been difficult to refuse the examination.

There is little other formal research looking specifically at the woman's perspective of pain during vaginal examination, and none which takes into account continuity of care models of maternity, informed consent, and shared decision making. What is available is found in birth stories or other anecdotes from the United Kingdom. These suggest that women find vaginal examination painful regardless of who is undertaking it, whether midwife or doctor (Beech & Phipps, 2004). Whilst pain is part of a physiological labour, the ability to work with the pain is complex and may be influenced by psychological, spiritual and cultural factors as well as the physical presence of pain (Leap & Vague, 2006). It would appear that, unlike other clinical assessments such as palpation and fetal heart auscultation, the act of undertaking a vaginal examination to assess cervical dilatation can cause embarrassment, vulnerability and further pain during labour which is often already an intensely vulnerable and painful time for women.

The use of vaginal examination can also be seen as disempowering for women with the perception that the childbirth professional will trust the 'science' rather than woman's knowledge of their body or their labour (Beech & Phipps, 2004). This may occur when the woman is labouring well but on vaginal examination is found to be 'only' four centimetres or where the woman feels like pushing but has to have a vaginal examination to confirm that she is truly ready to push (Beech & Phipps, 2004; Halldorsdottir & Karlsdottir, 1996). Women can also lose confidence in their ability to labour if they discover that there has been less cervical dilatation than expected. In these circumstances midwives describe using distraction techniques as a means of waiting longer before undertaking a vaginal examination (Dixon, 2005).

INFECTION

Infection in the form of puerperal fever has been described as early as 1599 and has always been a threat to women's health and their lives (Loudan, 1992). Following the introduction of antibiotics and improved hygiene and health status for women, death from puerperal fever has become extremely rare in contemporary society. However, the vaginal examination continues to carry a risk of introducing infection with chorioamnionitis occurring

in between 8 and 12 women per 1000 births (Lumbiganon, Thinkhamrop, Thinkhamrop, & Tolosa, 2004). Vaginal organisms can be introduced into the cervical canal even during sterile conditions (Imseis, Trout, & Gabbe, 1999) with increased rates of infection in women who had vaginal examinations after premature rupture of membranes (Lewis & Dunnihoo, 1995). Babies are also at risk from ascending infection with 30% of neonatal infections caused by group B haemolytic streptococcus thought to be caused by vertical transmission from an infected mother (Stade, Shah, & Ohlsson, 2004). Therefore the vaginal examination can increase the risk of harm for women and their babies.

DISCUSSION

Whilst the use of vaginal examination has a long midwifery tradition (Donnison, 1988), the expectation of regular, routine use to monitor cervical dilatation has only developed since the 1950s, and has an underlying discourse of controlling the parturient body through use of time limits.

Midwives have a body of knowledge that is unique to midwifery. It is a combination of knowledge, experience, intuition and

judgement that enables midwives to monitor the physiological labour as it moves towards birth from a variety of clues. Within the midwifery profession there has been discussion on other means of assessing physiological labour as it moves towards birth (Hobbs, 1998; Stuart, 2000; Warren, 1999). Burvill (2002) suggests that midwives have many ways of knowing when a woman is in labour and that they are skilled in diagnosing labour onset in women by interpreting the cues provided without physically interfering with a woman's body and birthing process (Burvill, 2002). This has been reinforced by research undertaken by Cheyne, Dowding & Hundley (2006) which suggests that midwives used information cues from the women to help them diagnose labour including the physical signs such as strength, frequency and regularity of contractions along with how the woman was coping and what supports she had around her. However, the midwives did also consider that the vaginal examination was an important factor in establishing whether the woman was in labour. They suggested that there were many aspects of the assessment that should be considered such as cervical consistency, confirmation of presentation and application of the presenting part, and effacement in conjunction with cervical dilatation when making a judgment as to whether labour was established (Cheyne et al., 2006).

Arguably a vaginal examination during labour can be considered both an intervention and an essential clinical assessment tool. Assessing cervical dilatation can help midwives determine whether there is a normal presentation and rhythm to the labour. However, it can also disturb the fine balance that supports physiological birth.

Understanding the normal rhythm of labour is an important facet of midwifery care, and whilst the actual mechanisms that initiate and promote labour are complex and poorly understood it is generally agreed that labour progress is mediated by hormones that stimulate and govern uterine contractions (Baddock & Dixon, 2006). Effective contractions lead to progressive dilatation of the cervix and to the birth of the baby. However, there are some conditions such as malpresentation, cephalo-pelvic disproportion and obstructive labour which lead to a prolonged and difficult labour or birth and a need for obstetric intervention (Thorogood & Donaldson, 2006). More research is necessary to improve our understanding of the normal rhythms of labour for physiological births, as well as the

abnormal or disrupted rhythms which may indicate prolonged or obstructive labour. In particular how do midwives assess that labour is progressing physiologically and what is the evidence around what should be considered the normal parameters of a physiological labour? There is also a need for research exploring the woman's perspective of labour as it progresses towards birth and the impact of continuity of midwifery care in these situations. Does knowing the midwife make vaginal examination less painful for the woman? To date contemporary research suggests that patience with the physiological process is required and that there should be a reassessment of the current time parameters and the need for partograms especially when there is continuity of midwifery care.

Intrapartum care should be individualised to the woman and there is a need to balance the benefits of undertaking a vaginal examination with the potential harm that may be caused by the intervention itself. The use of the regular routine vaginal examination is questionable when the midwife is seeking to individualise care to each woman in labour.

CONCLUSION

Vaginal examination is a physically invasive procedure which can have psychological consequences causing disruption to the natural body rhythms as well as emotional and physical pain (Edwards, 2005). The birth process is individual to each woman and there is a wide range of what can be considered physiological. At the same time, the vaginal examination is also an important and essential assessment tool which can help midwives understand labour and whether it is established and progressing (Cheyne et al., 2006). It can reassure both the woman and the midwife that the labour continues to be physiological in its rhythms.

Arguably, the vaginal examination can be considered both an unnecessary intervention and an important clinical assessment tool. It may be an unnecessary intervention if used routinely and as part of standardised labour care. Vaginal examination should be used judiciously when there is a need for more information that cannot be gained from observing the various external aspects of labour. Interpreting labour progress is complex and requires experience, knowledge and judgement which is aided by continuity of care from a midwife known to the woman.

A VAGINAL EXAMINATION DURING LABOUR CAN BE CONSIDERED BOTH AN INTERVENTION AND AN ESSENTIAL CLINICAL ASSESSMENT TOOL

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