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Title page

'Not in established labour': outcomes for women cared for in an Irish antenatal ward

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Key points

- Women who self-refer to a maternity hospital due to labour-like symptoms find it stressful and confusing to be told they are 'not in established labour'
- The outcome of care for women admitted to the antenatal ward of a large Dublin maternity hospital at term, with labour-related symptoms but not in established labour, was unknown
- A retrospective study was conducted on the charts of 47 of women admitted to the hospital to examine outcomes for these women who experienced midwifery care while awaiting the onset of active labour
- Seventy-two per cent of women were transferred to delivery suite in active labour, and 28% required augmentation of labour; only one woman had a caesarean section birth
- Twenty-three women (49%) had at least one injection of Pethidine in the antenatal ward
- Women admitted to the antenatal ward to await establishment of labour need quality time from the midwife, and needs-based care, to make each woman's birthing experience a positive and memorable one

Abstract

An audit was conducted in the Coombe Women and Infants University Hospital, Dublin, Ireland in November 2012 with 47 women in early labour, through retrospective review of charts. The aim was to ascertain the outcomes of labour and describe the interventions performed by midwives for women admitted to the antenatal ward at term gestation with labour-related symptoms. The most common reason for transfer of women to labour ward was establishment of labour (72.34%) and, of these women, only a few (35.29%) needed augmentation of labour. Among the women transferred in active labour, 97.05% had vaginal births with an average duration of labour of 4.1 hours (with no augmentation) and 5.3 hours (with augmentation). All women transferred for augmentation of labour (27.66%) had vaginal births. Women admitted to the antenatal ward to await establishment of labour need quality midwifery care to make their birthing experience a positive and memorable one.

Introduction

Traditionally, labour is diagnosed by reference to the strength and number of contractions, and assessment of cervical dilatation. A number of authors, however, have recommended more women-centred means of determining the start of labour, and the provision of more structured care and support in early labour (Hodnett et al, 2008).

Advising women when to present to hospital is a challenging question for midwives. Anxiousness, pain and fear of unknown are some of the factors that influence women's decision on when to come to hospital. Cheyne et al (2007) interviewed 21 women after birth regarding early labour experiences and concluded that a feeling of uncertainty, current level of pain and fear of impending pain and anxiety were some of the most influencing factors among women in deciding when to present in hospital. Women with prior experience of labour felt somewhat prepared and knew what to expect, knowledge that was lacking among women with no prior experience. In spite of any amount of preparation, most women felt uncertainty was the central issue.

Weavers and Nash (2012), two consultant midwives, provided an overview of a collaborative service improvement project undertaken by midwives at the Royal Berkshire NHS Foundation Trust. The overall aim was to improve services for women in early labour through an audit reviewing the early labour service, where most women felt that a telephonic advice service was very calming and reassuring. On the basis of this review a telephone triage line was implemented for six months and then evaluated. and the evaluation showed a high degree of satisfaction among women with the service and a significant improvement in midwives discussing coping strategies with women in early labour, an increase in the use of the midwifery-led unit and in normal birth rate of low-risk first-time mothers (Weavers and Nash, 2012). These findings led the organisation to open a 24 hour telephone triage line.

The Coombe Women and Infants University Hospital (CWIUH) in Dublin, Ireland, cares for over 8,000 expectant women per year. In this hospital, women with signs and symptoms of labour arrive at an assessment unit where they are assessed by midwives for diagnosis of labour. Women in established or active labour are transferred to the labour ward. If establishment of labour is thought to be imminent, women are retained in the assessment unit to mobilise. Those not in established labour are transferred to the antenatal ward where they are cared for by midwives until labour establishes or any further events take place. While in the antenatal ward women are encouraged to mobilise, have a shower, use the birthing ball, or use transcutaneous electrical nerve stimulation (TENS) if they have their own personal set. Oral Paracetamol and intramuscular injection of Pethidine are the most common modes of pharmacological pain relief for women in the antenatal ward at term gestation with no history of caesarean section, who await establishment of labour. Understanding individual needs and advising women on appropriate type and time for

analgesia is a challenging role played by midwives, so information on use of analgesia at any stage of labour is of paramount significance.

A 24-hour telephone line service is also available in CWIUH to answer women's queries in relation to symptoms of labour or ruptured membranes. Most women avail of the telephonic service and speak to a midwife from the assessment unit regarding their symptoms, which not only helps them to know the ideal time to present in the hospital but also provides reassurance and helps them to cope better.

Although the assessment unit and telephone triage system appeared to work well and were based on research from other areas, the care provided for women who presented at the hospital not in established labour, and who were transferred to the antenatal ward for observation, had not been examined. Accordingly, a study was proposed to investigate the outcome for women admitted to the antenatal ward of CWIUH, at term, with labour-related symptoms.

Aims

1. To describe the interventions for women admitted to an antenatal ward at term gestation, not in established labour, in terms of vaginal examinations, administration of pain relief, and reason for transfer to delivery suite.
2. To ascertain and describe labour outcomes, in terms of type of birth and duration of labour, for these women.

Methods

Study design

This was a retrospective, descriptive audit of the midwifery interventions and labour outcomes for women who were admitted to the antenatal ward of CWIUH in November 2012, not in established labour. The audit was approved by the hospital research committee and Director of Midwifery, and was judged as not requiring ethical approval by the Faculty of Health Sciences, Trinity College Dublin, as only anonymised data were used. The Clinical Midwife Manager-3, midwifery staff and students in the designated antenatal ward were all informed about the audit and steps of data collection.

Setting: The audit was conducted in the antenatal ward of Coombe women and Infants University Hospital, Dublin, Ireland in November 2012 for a period of one month.

Sample

The population included all women transferred from the assessment unit to the antenatal ward of the CHIUH at term gestation with labour-related symptoms. Any women who presented in early labour less than 37 weeks of gestation, and women who did not become established into labour and went home, were excluded from the audit. The sample size was 47, representing all women admitted consecutively over a one-month period in November 2012.

Data collection

A retrospective review of hospital records was conducted. Data collected included non-identifying sample characteristics, number and reasons of vaginal examinations performed in the antenatal ward, pain relief, reason for transfer to delivery suite, reason for augmentation of labour (if augmented), mode of birth, and duration of labour.

Data analysis

Data were analysed by hand using descriptive statistics.

Results

The results are presented in terms of sample characteristics, number and reasons for VEs performed, pain relief, reason for transfer to labour ward, type of birth and duration of labour.

Sample characteristics

Of the 47 women included in the audit, 26 (55.32%) were primigravida, 19 (40.43%) were multipara with previous vaginal births and 2 (4.25%) were multipara with previous birth by caesarean section.

Vaginal examinations (VE)

The majority of the women (n=24, 51.07%) needed only one VE. Twelve women (25.54%) had two VEs, five (10.63 %) had 3 VEs and one woman (2.13%) had 4 VEs performed during their stay on the ward. However, 5 (10.63%) women had no VEs performed.

The most common cause for vaginal examination was to check cervical dilatation when women requested analgesia (injection of pethidine). A total of 37 (78.73%) women requested for analgesia, of whom only 23 women (62.17%) received analgesia. The remaining 14 women (37.83%) did not receive any injection of Pethidine on the ward as they were transferred to labour ward in established labour. Other reasons for performing VEs were complaints of scar tenderness (n=1, 2.13%), non-reassuring cardiotocograph (CTG) (n=1, 2.13%), pain with presence of meconium stained liquor (n=1, 2.13%) and to check progress or establishment of labour (n=2, 4.25%). Five women (10.63%) did not need any VE done because they were transferred for augmentation of labour.

Pain relief (An intramuscular injection of Pethidine 50-100mg):

The majority of women (n=24, 51.06%) had no pain relief (no injection of pethidine) on the ward. However, 19 (40.43 %) women had one dose, 3 (6.38%) had two doses and one woman (2.13%) had three injections of pethidine for pain relief during their duration of stay on the ward.

Reason for transfer to delivery suite:

The majority of women (n=34, 72.34%) were transferred to delivery suite in active labour (regular painful contractions with cervical dilatation 3 cms or more). The remaining 13 (27.65%) were transferred for augmentation of labour. Of the 34 women admitted to delivery suite in active labour, 12 (35.29%) later required augmentation of labour with oxytocin infusion due to failure to progress in first stage of labour (n=7, 20.59%), failure to progress in second stage of labour (n=4, 11.76%) or fetal distress and prolonged rupture of membranes (n=1, 2.94%).

Type of birth:

The majority of women transferred in active labour had a normal vaginal birth (n=20, 58.82%). However, 38.23% (n=13) had instrumental birth and 2.94% (n=1) had caesarean section mainly because of fetal distress (determined from cardiotocograph and fetal blood sampling results). Among the 34 women transferred to labour ward in established labour, 20 (58.82%) were primigravida and the remaining 14 (41.18%) were multigravida. Of the 20 primigravida transferred in established labour 19 (95%) had vaginal births and only one woman (5%) had emergency caesarean section due to suspected fetal distress and all six primigravida (46.15%) transferred for augmentation of labour had vaginal births. All the multigravid women transferred in established labour (n=14) and for augmentation of labour (n=7) had vaginal births. (Table-1 and Table-2)

Table-1: Establishment of labour and birth outcomes (n=47)

Reason for transfer of women to delivery suite	Type of birth		
	Spontaneous vaginal birth	Instrumental birth	Caesarean section
Transfer in active labour 72.34% (n=34)	58.82% n=20	38.24% n=13	2.94% n=1
Transfer for augmentation of labour 27.66% (n=13)	76.92% n=10	23.08% n=3	0

Duration of labour: Duration of labour is calculated from the time of admission of women to labour ward in established labour or for augmentation of labour till the time of birth of baby. The average duration of labour of women transferred to delivery suite in

spontaneous labour was 4.1 hours (S.D. =3.42) and the duration of labour of women transferred for augmentation was 5.3 hours (S.D. = 3.57). The majority of women transferred in active labour were primigravida (n=20, 58.82%) and their average duration of labour was 5.14 hours (S.D. = 3.46). The 14 multiparous women (41.17%) transferred in active labour had an average duration of labour of 2.58 hours (S.D. =2.61).

Table-2: Parity, reason for transfer to delivery suite and birth outcome (n=47)

Parity	Reason for transfer to delivery suite		Type of Birth	
	In active labour	Augmentation	Vaginal birth	CS
Primigravida 55.31% n=26	76.92% n=20	23.08% n=6	96.15% n=25	3.84% n=1
Multigravida 44.68% n=21	66.66% n=14	33.34% n=7	100% n=21	0

Discussion:

Key results

The results of this audit highlight interventions carried out for women presenting to the antenatal ward, such as vaginal examinations, administration of analgesia, reasons of transferring women to labour ward, mode of birth and duration of labour.

Vaginal examinations

In the Coombe Women and Infants University Hospital vaginal examinations are carried out on the antenatal wards to check progress or establishment of labour or if women request analgesia. Minimising the number of vaginal examinations is an important factor in the care of women in early labour. Too many VEs not only cause pain and discomfort but also have a disruptive impact to women's emotional wellbeing. Hassan et al (2012), through an interview of 176 postpartum women in a Palestinian public hospital, demonstrated that there is no benefit reported from repeated and frequent VEs to check labour progress. Among their study participants, 82% reported experiencing pain and 68% reported discomfort from undergoing repeated VEs. Dixon and Foureur (2010) discussed the benefits versus harms of undertaking VEs during labour. VE can be considered both an unnecessary intervention and an important clinical assessment tool. However, VE should be used judiciously, only when absolutely necessary and not as a routine. Findings of this audit indicate that the majority of women (n=24, 51.07%) had one VE. Twelve women (25.54%) had two VEs, five (10.63%) had 3 VEs and one woman (2.13%) had 4 VEs performed during

their stay on the ward. This suggests that emphasis should be placed on improving current practice by performing VEs only when absolutely necessary either for a clinical reason or to ascertain establishment of labour, to reduce the number of VEs.

Pain relief

Women in early labour need encouragement to use the non pharmacological pain relief through simple measures such as mobilisation, having a shower, using a birthing ball, maintaining an upright position etc. Each of these measures play a significant role, which help women to cope with pains and ultimately contribute to the labour outcome. Baker (2010) analysed the significance of mobilisation and maintaining an upright position during labour, through a systematic review, and highlighted the fact that there is no optimal position for labour. This review concluded that the role of a midwife should be to encourage women to adopt measures that would enhance women's birth experiences and support normal physiology of birth (Baker, 2010). The time period women spend on the antenatal ward while awaiting establishment of labour is the most crucial period. This is the time when every woman uses their own coping measures. A combination of factors such as anxiety, pain, fear of impending pain, uncertainty of outcome, etc are extremely influential at this stage. This period for some women is longer than the total duration of labour and birth of their baby. Informing women about different measures of non-pharmacological pain relief is an important role of every midwife involved in care of women in non-established labour. Injection of pethidine is a commonly used analgesic for women in early labour in the Coombe Women and Infants University Hospital. Injection of pethidine induces calmness through its sedative effect (Lliadou, 2009) but may prolong labour (Thomson and Hillier, 1994). However, a comparative study on outcomes after pethidine and diamorphine for labour analgesia by Torrance et al (2003) has reported that women receiving pethidine were significantly less likely to vomit and require further analgesia. In the current audit a total of 24 (51.06%) of the 47 women did not have any pethidine for pain relief on the antenatal ward. However, injection of pethidine is considered as an acceptable and a common mode of pharmacological pain relief for women admitted to the antenatal ward of Coombe women and Infants University Hospital before establishment of labour. This is also evident from the study by Khooshideh and Shahriari (2009), which provides evidence that both pethidine and tramadol provide moderate analgesia in first stage of labour. Administration of pethidine to women who request analgesia before establishment of labour gives the women a longer duration on the antenatal ward and ultimately prevents admission to labour ward before establishment of labour, which can be beneficial in reducing the number of interventions experienced.

Reason for transfer of women to labour ward and duration of labour

Transfer of women to labour ward in established labour can be ensured through quality antenatal care. This not only ensures a safe and positive outcome of labour but also may influence the total duration of labour. Gross and Keirse (2005) found that some of the factors influencing duration of first stage of labour were age, parity, antenatal classes, rupture of membranes, first vaginal examination and baby's birth weight. Dencker et al (2010) described how creating an awareness among women for more rest and sleep and normal intake of food during the 24 hours prior to labour is a significant part of care for women in early labour, which ultimately has direct and indirect impact on the length of labour. This current audit has highlighted the reasons for transfer of women into labour ward and the overall outcome of labour. The most common reason for transfer was establishment of labour (72.34%). Among the women who were transferred to labour ward in active labour only one third (35.29%) needed augmentation of labour. Among the women transferred in active labour, 97.05% had vaginal births with an average duration of labour of 4.1 hours (who did not have any augmentation) and 5.3 hours (who needed augmentation). The overall findings indicate that the interventions during labour and outcome of labour directly and indirectly depend on how established the labour is. However, the findings of the audit show that all women who were transferred to the labour ward for augmentation had vaginal births.

Limitations and generalisability

This audit describes the midwifery interventions and labour outcomes with no comparison of findings between different interventions or labour outcome. Data for the audit were gathered over a month, producing a small sample size, which limits generalisation of the findings to other maternity settings. Local policy of the hospital has been highlighted to emphasise the current practice. However, midwifery practice and intervention vary among maternity care settings.

Conclusion:

This small audit has shown that further research is needed to identify the effects of quality care on labour outcomes for women not in established labour cared for in an antenatal ward. Provision of effective support during early labour is very significant and it may have implications for the whole labour experience. Recognition of the fact that women experience painful contractions even prior to establishment of labour can be a step to understanding the quantity and quality of support and amount of intervention needed to help women cope with the physical and emotional pains. Many women presenting to the assessment unit in non-established labour find it disappointing to discover they are not in labour even with painful contractions. This can be a very stressful and confusing situation for most women and those who are admitted to the antenatal ward to await establishment of labour need quality time from the midwife, and needs-based care. The organisation has

an important role to make this task a possible one by ensuring sufficient staff to make each woman's birthing experience a positive and memorable one for herself and her family.

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