What factors affect documentation by midwives? A prospective study assessing relationship between length of shift, workload and quality of note keeping

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A B S T R A C T

Objective: The objective of this study was to assess the association between the quality of basic note keeping and partogram documentation with progression of shift and workload on labour ward.
Design: This was a prospective observational study.
Setting: The setting of this study was a labour ward of a teaching district hospital in an inner city London hospital.
Methods: Intrapartum notes and partograms of 61 consecutive labouring women were assessed for quality of midwifery documentation at the beginning, middle and end of a 12-h shift.
Measurements: The measurements of this study were a basic note-keeping composite score based on validated criteria by the Nursing and Midwifery Record Keeping Guidance 2010 and a partogram completion score based on the National Institute for Clinical Excellence (NICE) Guidelines for Intrapartum Care 2007.
Findings: The basic note keeping deteriorated between the middle and the end of the 12-h shift, but it appeared unaffected by workload, with no statistically significant difference between day and night shifts. Partogram documentation was poorer in the middle compared to the beginning of the shift, and there was no statistical difference between day and night shifts. Partogram completion appeared to be influenced by women: midwife ratio as well as progression through a shift.
Key conclusions: The basic note keeping and partogram documentation were best at the beginning of the shift, and fatigue may play a role in poorer documentation towards the middle and the end of the shifts.
Implication for practice: Appropriately scheduled breaks especially during the final third of the shifts may help improve the quality of documentation.

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Introduction

It has long been recognised that good-quality documentation is important for improving standards of patient care (Saranto and Kinnunen 2009; Zegers et al. 2011) and for providing evidence of care in a legal setting. Hyde et al. (2005), Johnson et al. (2010) and Griffiths and Hutchings (1999), for example, found that poor documentation is associated with poor nursing care, while Black et al. (1989) noted a positive correlation between documentation and patient outcome (e.g., length of hospital stay). Good-quality documentation is also crucial when legal challenges are brought to court as cases may arise years after in the incident in question

(Rodden and Bell 2002): in crude terms, 'poor records mean a poor defence and no records, no defence' (Tingle 1998). In a labour-ward setting, good-quality documentation exists in the form of a high standard of entries into intrapartum care notes and full completion of partograms. The use of the latter has been shown to be effective in differentiating normal from prolonged labour, thus identifying women likely to require interventions such as augmentation.

Studies have put forward theories as to why nursing and midwifery documentation may be suboptimal, and these mostly focus on the attitudes of the profession towards documentation: nurses sometimes see documentation as little more than an accounting mechanism for defence in a legal setting (Allen 1998; Currell et al. 2000). Often, greater importance is placed on oral communication during the handover of care, negating the importance of a written note (Pearson 2003; Cheevakaseemsook et al.

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2006). Furthermore, documentation quality can also be sacrificed in the preference of patient care in times of heavy workloads and interruptions (Currell et al. 2000; Jefferies et al. 2012).

In the 1970s, there was a crucial move from an 8- to a 12-h shift in response to a national nursing shortage. While this had positive effects on staff satisfaction and morale (Smith et al. 1998), there were concerns that the longer shifts had adverse effects on performance due to fatigue. Geiger-Brown, Trinkoff (2010) reported increased incidences of drowsiness, inadequate sleep and needle-stick injuries when comparing the 12-h shift to the former 8-h shift. However, there are little data on the association between duration of a shift, fatigue and quality of documentation, thus linking the 12-h shift to suboptimal patient care with potential medico-legal implications. Furthermore, in these stringent economic times, wards are often short-staffed (Geiger-Brown et al. 2012) due to the National Health Service (NHS) trusts being reluctant to replace staff, thus generating a further increase in workload.

The authors have conducted a prospective observational study to assess the quality of intrapartum midwifery note keeping and partogram completion over the course of the 12-h shifts, and to potentially investigate the influence of workload on documentation.

Methods and Materials

Setting

The study was undertaken on the labour ward (LW) of a North London teaching hospital, where approximately 3800 births occur each year. The unit consists of 13 birthing rooms, two high-dependency rooms and two obstetric theatres. The daily 24-h midwifery rota is divided into two 12-h shifts staffed by a minimum of seven midwives and one senior LW coordinator. The hospital is situated in the third most socially deprived London boroughs with a multi-ethnic population of predominantly Turkish (30%), Somalians (20%) and Eastern Europeans (15%).

Materials

The data were collected by two final-year students from the University College London (SB and GW) while doing their undergraduate obstetrics and gynaecology rotation. Seventy consecutive women were admitted through LW during the 120 h of the study; from these, nine women did not go into labour, leaving 61 sets of intrapartum care notes, which were deemed suitable for the analysis. A total of 61 partograms and 392 separate entries were assessed from the 61 sets of intrapartum care notes. Note entry was defined by either an entry on a new page or a change in the midwife recording in the notes, and only entries by qualified midwives were analysed (i.e., excluding entries by medical personnel and student midwives). The two students assessed the records independently, and if the scores were discordant, then the senior author (WY) would have the final decision on the eventual scores.

As the study was observational and considered service evaluation for the quality of documentation, formal ethics approval was not necessary (but the Ethics Committee was informed).

Tools

Many different audit tools have been used to assess the quality of nursing documentation throughout the literature, one of the earliest being the Phaneuf Nursing Audit (Phaneuf 1976; Manfredi 1986) in which items are rated as *yes, no, uncertain or does not apply*. However, this was thought to not apply to the British health system (Corben 1997), and currently there is no international or national audit tool to measure nursing or midwifery documentation quality (Johnson et al.2010). Thus, in an effort to standardise the analysis, this study identified criteria from the Nursing and Midwifery Council (NMC) Record Keeping Guidance 2010 and the National Institute for Clinical Excellence (NICE) Guidelines on Intrapartum Care (2007).

In this study, objective composite scoring systems, derived from national guidance, were created to assess basic note-keeping quality and completion of partogram. The basic note-keeping scoring system, for example, was based on the the NMC Record Keeping Guidance 2010, and only factors that were relevant to an LW setting and that could be measured objectively were selected to be analysed, that is, factors could be scored as present (1) or absent (0). The basic note-keeping scoring criteria are depicted in Appendix A.

Each data entry was assessed for the presence or absence of the following eight factors: date, time, signature, printed name and position, black ink, legibility, appropriate error correction and physical intactness of medical records. The partogram was scored according to the NICE Guidelines for Intrapartum Care (2007), which dictates the observations that midwives should record during the first and second stages of labour. Only observations that are essential for every labour and that could be assessed objectively were selected for assessment. The following 12 observations were assessed: patient identification, time, temperature, maternal blood pressure, maternal pulse, foetal heart rate, position caput moulding, dilatation, station, contraction frequency, contraction regularity, contraction strength and signature. These criteria are depicted in Appendix B.

Procedure

For the ease of data collection in our study, the 12-h shift was split into three blocks: beginning, middle and end. In order to be confident that any change in the documentation quality across the shift was due to progression through the shift and not down to any other potentially confounding factors (such as workload), the following variables were also recorded in each 4-h block: ratio of women:midwives on LW, number of high-risk women on LW, number of high-dependency rooms occupied and number of theatres in use. High-risk women included those with a serious medical condition, that is, previous obstetric complication or current obstetric complication defined according to the NICE Guidelines on Intrapartum Care (2007). Intrapartum care notes were collected prospectively once women had left LW, and documentation was analysed within a 24-h period (Wong 2009).

The Basic Record-Keeping Score

During each 4-h block, a basic composite record-keeping score was calculated for each of the eight factors. For example, if in the beginning 4 h of the shift, 19 separate note entries were made in the intrapartum care notes but only 14 of those included a date of entry, then the date score would be $(14/19) \times 100 = 74\%$. A total basic record-keeping score for each 4-h block was calculated by taking a mean of all eight factor scores:

$$Factor\ score = \frac{actual\ number\ of\ times\ factor\ presence}{possible\ number\ of\ times\ factor\ could\ have\ been\ present} \times 100$$

The Partogram Score

During each 4-h block, a partogram score was calculated for each of the 12 observations. For example, if in the middle 4-h of the shift, seven partograms were commenced but only five of