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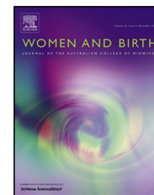

DISCUSSION

Digital voice recorders – A conceptual intervention to facilitate contemporaneous record keeping in midwifery practice☆,☆☆

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ABSTRACT

Background: The first responder, faced with any obstetric incident, frequently finds themselves within a dichotomy of multi-tasking activities. One challenge for the midwife, is to keep accurate and contemporaneous medical records, whilst simultaneously providing immediate clinical care.

Aim: This paper aims to propose an innovative conceptualisation and a practical solution for maternity services, which strive to uphold best practice in creating contemporaneous and accurate medical records. The feasibility of introducing the use of voice recorders within maternity services will be explored, and offered as a mechanism to facilitate record keeping and simultaneous clinical care.

Methods: A synthesised narrative review of the literature is conducted. This review academically tests the conceptual hypothesis that the implementation of voice recorders within maternity services may augment the midwife's ability to generate contemporaneous medical records. A background literature review will also explore the key drivers for this particular innovation, and the challenges facing healthcare leaders in service improvement.

Findings: This paper builds upon previous suggestions that digital voice recorders may be an effective solution to enhance overall obstetric outcomes, and focuses upon conceptual processes for implementation.

Conclusions: This paper offers the principal conclusion that the integration of voice recorders into midwifery practice for the purpose of supporting contemporaneous record keeping may be feasible within the current healthcare climate.

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1. Introduction

Conceptual ideas in relation to the implementation and use of voice recorders in clinical practice lean towards the postulation that the digital integration of voice recorded clinical documentation may improve services.[1] This paper will explore the challenges and opportunities for implementing this intervention specifically within midwifery practice.

The accuracy of the medical record in midwifery is imperative to ensuring effective communication, patient safety, decision making, auditing, and legal investigations.[2] Within the arena of record keeping, consideration has been predominantly afforded towards the epidemiology of poor practice, adverse events, and preventative measures rather than the development of innovative solutions.[3] Accurate documentation of any midwifery care must be written contemporaneously or directly after events occur.[4,5] However the incidence of poor contemporaneous record keeping within maternity services has yet to be remedied.[6]

Within hospital settings, a skills drills or emergency team may appoint a time keeper in order to record clinical events in real time. However, within the home birth and other community based settings, lone workers may also be faced with obstetric emergency, either alone or with little support. The unpredictability of such a scenario may be difficult to manage. As the need for clinical midwifery management becomes immediate, clinical

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record keeping may become retrospective and secondary to primary care.[7,8]

Health and social care records are legal documents. A contemporaneous record is considered to be a chief form of evidence, and many practitioners believe that if it is not recorded it did not happen.[9] Keeping contemporaneous and accurate records is an imperative component in providing quality patient care, and could reduce the number of complaints and litigation claims in the NHS.[10] Poor record keeping may have a significant human, as well as financial costs to the UK healthcare system.

This paper will explore the concept, feasibility and potential challenges in using digital voice recorders in midwifery practice to accurately and contemporaneously record clinical events. It will also provide an overview of the central theoretical principles of digital record keeping, and explore pathways towards implementing the use of voice recorders within the maternity services.

Exploring a solution which allows for contemporaneous record keeping during obstetric emergencies will be significant to both practice and research, as written recollections in obstetrics are often incomplete and incorrect.[11,12] Exploring digital solutions to improve the accuracy of documentation may be a key step in moving towards comprehensive electronic documentation practices within healthcare.[13] This paper aims to further this conversation.

2. Background

Currently, the majority of UK healthcare organisations use some form of Health Information Technology to manage data storage, record keeping and optimal decision making. Yet these current systems may not meet the complex needs of patients, professionals and organisations.[14] Increasingly, maternity services are employing prompt based electronic medical record keeping. However, prompted electronic medical record keeping alone does not always ensure full compliance with record keeping requirements, and retrospective record keeping has been associated with inaccuracies.[15,16]

For the clinician, managing any obstetric emergency can be stressful. Stress can impair a clinician's perception of time, and their ability to multitask.[17] As the midwife prioritises the immediate need for clinical care, records may be more likely to be written in relative retrospect. This may in turn impair the quality of documentation in relation to obstetric emergencies, as the clinician's impaired perception of time may produce inaccurate records.[17]

When documentation is completed in written format, there are often many variations in the terminology used by healthcare professionals.[3,18] This can cause confusion and the misinterpretation of the record, particularly when fragmented abbreviations are used.[19] This in turn may result in misinformed decision making and poor care. Careless record keeping can also result when high pressured maternity work environments produce hurried documentation, where some information may be omitted if it is deemed to be of no use.[20]

This paper will use the example of neonatal resuscitation as one of many obstetric incidents where voice recorders may be of use in clinical practice. The World Health Organisation (WHO) approximates that each year, between four and nine million newborns will require resuscitation worldwide.[21] As soon as a baby is born, it is recommended that a clock be started to ensure accurate recordings, so that regular evaluations can be performed.[22] This requirement could be facilitated with the use of digital voice recorders. Accurate records play a vital part in future learning, competence, communication and auditing practice during any obstetric incident.[23] Therefore, the exploration into a viable solution to facilitate this, is of timely significance.

Obstetric staff may be unclear about who is responsible for the prompted electronic documentation of a clinical incident, and may omit vital actions taken by the team.[24] Additionally, many midwives reject the use of computerised medical record systems altogether if they are not based upon the preferred story telling approach to writing patient records.[25] Therefore any new intervention developed to improve record keeping techniques should consider enabling clinicians to capture narratives easily.[26] However, in using the narrative model of record keeping alone, some aspects of the story may be emphasised and others forgotten.[26]

Creating data-rich environments is progressively becoming the key to high-quality care alongside integrated patient-centred care.[14] Yet innovators must create interventions which are predominantly oriented towards supporting healthcare as a social, interactive process.[27] It has also been suggested that such interventions should ideally allow the midwife to input these narratives effortlessly with the additional use of speech in the presence of the patient.[26] The use of speech is innate to humans, and so voice recordings could be a more accurate, simpler and natural way of capturing narrative during both obstetric emergencies and everyday maternity care.[28] Thus, the creation of voice recorded audio files could be an opportunity to improve overall record keeping practices.

Voice recordings are also easily incorporated within electronic medical records. The voice recording of clinical events may also promote a collective narrative of the entire event, rather than isolated data, as the recording becomes a source document. Recordings of clinical events can also be replayed, critiqued and transcribed if necessary, and could directly improve patient care.[29] As such, the use of digital voice recordings for improved record keeping practices is a valid area for exploration, and healthcare leaders may wish to consider turning this vision into practice.

3. Methods

The literature was explored narratively in order to gain a broader perspective of the validity of and problems associated with contemporaneous record keeping in midwifery practice. Throughout this sweeping review of the literature, Academic search complete, MEDLINE and CINAHL were searched using a combination of terms used for medical records, technology and clinical incidents (neonatal resuscitation, voice recorders, PDA, Health informantics, record keeping, nursing, midwifery, obstetrics, maternity, home birth, clinical incident, obstetric emergency, documentation and digital medical records). This was done in tandem with search terms for comprehensive research designs (qualitative, action research, ethnographic, semi-structured interviews, RCT, systematic reviews and meta-analysis). Snowballing was also employed as the researcher recursively pursued relevant references cited within the retrieved literature, as is best practice for brief literature reviewing.[30]

This paper has been led by the ESRC Methods guideline for generating a Narrative Synthesis in Systematic Reviews.[31] As such, searching remained broad in scope, with all papers considered for inclusion. This narrative synthesis aimed to bridge the gap between academic interpretations, by integrating a variety of studies. This was done to address the broadly hypothesised conclusion that the use of voice recorders may be effective in facilitating contemporaneous record keeping and improve midwifery practices. A narrative approach was chosen due to its hypothesis-generating functions and ability to academically test conceptual ideas and theories.[32]

4. Findings

Record-keeping can often be thought of as a chore, but practising midwives in the UK must comply with the record

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