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Case study

"Who's afraid?": Attitudes of midwives to the use of information and communication technologies (ICTs) for delivery of pregnancy-related health information

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ABSTRACT

Background: Usage rates for information and communication technologies (ICTs) in healthcare have been increasing in recent years, but often lag behind general usage rates for populations as a whole. Research into such differential rates of ICT use across different segments of the population has identified a number of possible causal factors that limit usage.
Aim: The research investigated midwives' attitudes and experiences of ICT use to identify potential causal factors that encourage or inhibit their usage in antenatal care.
Methods: Semi-structured interviews, focus groups and short surveys were conducted with midwives who provide antenatal education at an Australian metropolitan hospital. Thematic and statistical analyses were used to interpret the data.
Findings: Although midwives recognised the potential benefits of using ICTs to deliver pregnancy-related health information many had reservations about their use in everyday work. These reservations centred on lack of training in use of ICTs, the perceived legal risks associated with social media, potential violations of patient privacy, misdiagnosis and misunderstandings between midwife and client.
Conclusion: Midwives face a number of barriers to effective use of ICTs in healthcare including material access, skills access, usage access and motivational access. Motivational access appears to be a key concern due to the high perception of risk associated with social media in particular. Reducing the motivational barriers through a range of interventions with midwifery staff may assist in overcoming other barriers to ICT use in antenatal care. Further research is required to determine whether these findings are generalisable to other healthcare contexts.

1. Introduction

Some health professionals already utilise information and communication technologies (ICTs) in regular practice, including social media, blogs, phone apps and sending health messages via text and emails to patients.[1] Such practices are, however by no means widespread,[2] and understanding how to best use ICTs for health communication remains an important research priority. In this paper we explore the use of ICTs by midwives at a public tertiary hospital located in Adelaide, South Australia, and their perception of the use of ICTs in healthcare. Our primary research question was: what barriers to active engagement of midwives must be overcome if ICTs are to be effectively utilised for health communication in antenatal care? We hypothesise that midwives' concerns regarding ICT use as part of healthcare practice form a significant barrier to successful adoption of communication strategies that seek to employ ICTs for pregnancy-related health communication. Therefore, sympathetic understanding of midwives' concerns

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regarding ICT use as part of healthcare practice is essential if they are to adopt communication strategies that employ ICTs for pregnancy-related health communication.

This survey of the attitudes of midwives to social media use in their work stemmed from a study, named 'Health-e Baby', jointly funded by the Australian Research Council and SA Health, that has examined the information needs and use of ICTs by pregnant women ($n = 35$) attending the hospital. These women were recruited face-to-face by the projects Research Midwife (JD) and midwives working in the antenatal clinic at the study hospital. They completed semi-structured qualitative interviews about their access to and use of different media (i.e. television, mobile phones, Internet) and their information-seeking habits relating to pregnancy.

2. Literature review

Rapid increase in the use of ICTs throughout the developed world has led to dramatic changes in the way people communicate in their everyday lives. Hospitals' and professionals' utilisation of ICTs has expanded significantly throughout the world enabling new forms of interaction between patients and health professionals, as well as increased involvement of patients in their care.[1] The integration of ICTs, especially social media, into the delivery of healthcare and health communication is argued to have several potential benefits.[3] Social media can be used to facilitate doctor–patient communication, provide an avenue for peer-to-peer social support and information sharing, improve efficiency in the work place and as an important resource for increasing patient health knowledge.[1]

Yet, with the increasing use of social media in healthcare have come warnings of potential problems. These include: the need for specific guidelines to govern social media use, particularly in relation to duty of care[4]; concerns for both staff and patient confidentiality and privacy issues[5]; and cautions regarding the potential for harm to professional reputation.[6] This has led various health organisations in Australia to address these concerns. The Australian Health Practitioner Regulation Agency and the 14 National Boards representing the various healthcare providers, released a proposed social media policy for public consultation. Further, the Australian Medical Association Council of Doctors-in-Training, the New Zealand Medical Association Doctors-in-Training Council, the New Zealand Medical Students' Association and the Australian Medical Students' Association produced a social media guideline for medical practitioners and medical students.[7,8]

These are legitimate concerns and such responses reflect the strongly established ethical practices that protect the interests and wellbeing of both patients and healthcare professionals. Nevertheless, they also represent one potential barrier to increasing adoption of ICTs for health communication. van Dijk notes that four major barriers inhibit access to ICT use:

- material access, i.e. the availability of affordable ICT infrastructure and resources,
- skills access, i.e. the availability of the technical skills required to use ICTs,
- usage access, i.e. the availability of opportunities for ICT use,
- motivational access, i.e. the desire and willingness to use ICTs.[9]

These access barriers are obviously interconnected and individuals and organisations may experience each simultaneously. Material access is obviously a necessary condition for ICT use and along with skill access and has garnered most attention in research examining so-called 'digital divides' in various social contexts. However, van Dijk notes that the usage and motivational barriers may be of greater concern now that the availability of ICTs has become increasingly prevalent, not to say ubiquitous, in developed countries.[9] Lack of motivational access in particular may inhibit the degree and effectiveness of ICT usage even when other access barriers have been overcome, thus leading to wasted investment in resources.

This research aims to establish the extent to which these various barriers, but especially motivational access, may be a factor inhibiting ICT use by midwives in an Australian metropolitan hospital. It was undertaken for formative research purposes as part of a wider project investigating strategies for improving antenatal health communication, especially in relation to the needs of low socio-economic status (SES) and culturally and linguistically diverse (CALD) populations. Findings relating to a parallel study with antenatal women have been reported in a separate paper.[10]

3. Participants and methods

Semi-structured, face-to-face interviews ($n = 8$) and two focus groups ($n = 4$ and $n = 9$) were conducted with hospital-employed midwives to obtain qualitative data regarding their attitudes to the use of ICTs in antenatal care. All interviews were conducted on-site at the hospital by DR, a qualitative researcher with a PhD in anthropology and/or JD, a practising RN, RM trained in qualitative research techniques. Eight midwives were individually approached by the researchers to participate in the study. They were selected because of their specific roles in providing antenatal information and education. No one declined to participate in the study. Individual interviews were typically 1 h in duration and were audio recorded and transcribed verbatim. One focus group was conducted with four midwives working within the antenatal clinic where much of the antenatal care, health information and education are conducted. The other focus group included nine midwives working within the women's health division of the hospital. The first focus group was recorded, however, because of the recording environment it was of poor quality. As such, the research team decided not to record the second focus group. Field notes were taken by DR during the second focus group and written up afterwards. The duration of each focus group was approximately half an hour. Repeat interviews/focus groups were not conducted because of time restraints. The questions used in both the individual and group interviews were developed by the research team and related to participants' perceptions of antenatal women's healthcare needs and use of ICTs, as well as the participants' own understanding of the use of ICTs to deliver health messages and antenatal education.

Research conformed to the 'Statement on Human Experimentation' by the National Health and Medical Research Council of Australia and was approved by the Adelaide Health Service Human Research Ethics Committee (The Queen Elizabeth Hospital, Lyell McEwin Hospital, Modbury Hospital). All subjects gave informed consent. The consolidated criteria for reporting qualitative research (COREQ) checklist guided the production of this manuscript.[11]

van Manen described phenomenological research as a way to find meaning or sense of the 'lived experience', identifying threads of an experience to gain further depth of understanding.[12] In this study, the recordings and their transcriptions and field notes were thematically analysed by JD, identifying and reflecting on phrases and words used by the participants, resulting in the identification of common themes, noting repetitious use of some words by different participants. Re-reading the transcripts and notes, and re-listening to the recordings provided a clearer interpretation of not just the words said but the feelings behind them. An example of this is when the suggestion of the use of Facebook as a means to communicate with women was made; the response of 'no' was not