



Mobile technologies and communication strategies in an urban Midwifery Group Practice setting. An exploratory study



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ABSTRACT

Background: Around-the-clock access to a known midwife is a distinct feature of Midwifery Group Practice (MGP) and caseload midwifery settings; although the literature suggests this aspect of working life may hinder recruitment and retention to this model of care. Mobile technologies, known as mHealth where they are used in health care, facilitate access and hence communication, however little is known about this area of midwifery practice.

Research question: Which communication modalities are used, and most frequently, by MGP midwives and clients?

Methods: A prospective, cross sectional design included a purposive sample of MGP midwives from an Australian tertiary maternity hospital. Data on modes of midwife–client contact were collected 24 h/day, for two consecutive weeks, and included: visits, phone-calls, texts and emails. Demographic data were also collected.

Findings: Details about 1442 midwife–client contacts were obtained. The majority of contact was via text, between the hours of 07:00 and 14:59, with primiparous women, when the primary midwife was on-call. An average of 96 contacts per fortnight occurred.

Conclusion: The majority of contact was between the midwife and their primary clients, reiterating a key tenet of caseload models and confirming mobile technologies as a significant and evolving aspect of practice. The pattern of contact within social (or daytime) hours is reassuring for midwives considering caseload midwifery, who are concerned about the on-call burden. The use of text as the preferred communication modality raises issues regarding data security and retrieval, accountability, confidentiality and text management during off-duty periods. The development of Australian-wide guidelines to inform local policies and best practice is recommended.

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1. Introduction

Midwifery Group Practices (MGPs), providing caseload care, are increasingly common in Australian maternity settings. Around-the-clock (24/7) access to a named midwife, or known back-up midwife is a unique feature of this model of care; on-demand access is linked to maternal satisfaction.¹ The use of mobile

technologies to facilitate communication between midwives and their clients is now well established in MGP models, although there are implications regarding confidentiality and accountability.² This study explored mode and frequency of contact between MGP midwives and clients and hence, aimed to provide insight into this under-reported aspect of practice.

2. Literature review

2.1. Mobile technologies in health care

Worldwide expansion in the use of mobile technologies (also known as m-Health or telemedicine) has allowed rapid and increased access to health care, especially for socially and geographically isolated populations.^{3,4} Text messaging may be used to target particular groups such as young people, or to

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communicate information about sensitive issues including sexual health.⁵ Young women have been identified as a high-user group,^{6,7} with young mothers in particular targeted with contraception, pregnancy, and childbirth-related information.⁸ It is not known, however, if exposure to health messages results in greater engagement.⁹

In Australia, m-Health research within maternity contexts has mainly focused on health promotion or access to treatment for Aboriginal and Torres Strait Islander women living in rural and remote regions of Australia.¹⁰ Internationally, mobile technologies have been identified as vital in the achievement of Millennium Development Goals aimed at improving maternal and infant health outcomes,^{11,12} especially in developing countries.^{13,14}

Women receiving MGP care report having 24/7 telephone access to midwives as popular¹⁵ and reassuring,¹⁶ although negative aspects include unwanted impact on midwives' personal lives.¹⁷ Phone use in MGP settings differs from standard maternity care where texts may be more likely to be used for appointment reminders or to provide information.¹⁸ The potential for clinical consultations in MGP settings is a unique feature of practice although aspects of care relating to confidentiality, documentation and accountability raise medico legal issues.¹⁹

Much of the mHealth literature in nursing and midwifery is in the form of policy and educational documents. The New Zealand Midwifery Council code of conduct contains regulatory advice for texting,²⁰ and the United Kingdom (UK) Nursing and Midwifery Council lists the 'ability to text' as an essential communication skill for midwifery registration.²¹ The UK Royal College of Nursing (RCN) report² on best practice for text messaging recommends guidelines and policies include; standardisation of advice, user involvement, potential impact on vulnerable groups, education and training of staff, documentation and informed consent from clients, regular review, and monitoring. Consideration of information disposal, costs (client and provider), equipment access and maintenance, and workload implications were also recommended and internet-linked text facilities were suggested. The RCN²² also released practitioner guidelines emphasising the need for safe and appropriate use of mobile phones by staff working with children and young people. A search of key words in policy and governance documents from the Australian College of Midwives (ACM) and the Australian Health Practitioner Regulation Agency (AHPRA) made no reference to 'SMS', 'texting' or 'mobile phone'. Furthermore, the authors are not aware of any Australian educational facilities which include the use of mobile technologies in midwifery education curricula.

3. Methods

3.1. Design

A prospective cross-sectional design which included a purposive sample of MGP midwives working in an Australian tertiary maternity hospital.

3.2. Setting

The hospital provides maternity care for approximately 5000 publicly-funded women annually. The MGP model, (which commenced in 2006), is available to approximately 17% of women who access the service via routine GP referral. At the time of the study all MGPs ($n = 5$) employed the same number of midwives ($n = 4$) and were located in five discrete locations across the hospital catchment area; one MGP provided care specifically for young women. All MGP midwives work full-time, caring for 40 clients over a 12 month period. A midwife's caseload contains

approximately 50% of multiparous and primiparous women and the period of maternity care extends from the booking visit until 4–6 weeks postpartum. When midwives are on-call (on-duty) phone calls and texts are sent and received 24/7; institutional requirements stipulate that off-duty staff divert calls to practice partners and switch phones off (thus preventing receipt of texts, as well as calls). Human Research Ethics approval (Ref No. 1718QA) was granted.

3.3. Participants

All MGP midwives ($n = 20$) were invited to participate in the study. Fifteen agreed, representing each of the five geographical locations.

3.4. Recruitment

Study information was provided via in-service education sessions, which outlined conditions of participation; information sheets, containing the researcher's contact details, were also disseminated. Written consent was obtained immediately prior to participation.

3.5. Data collection

A purpose-designed data collection tool was piloted to assess feasibility and acceptability; no modifications were required. The tool was used to gather information on the number and type of contacts between midwives and their clients over a 24/7 period, for ten consecutive days, within a two week time-frame. Participants contributed to the tool design, and the manner in which it might be used most effectively; agreed the timeframe would accommodate normal peaks and troughs in client activity.

The following contact-related information was sought: mode (visit, phone, text, email), time of day, duration (in minutes), on-call or off-duty, planned or unplanned, and whether the primary or back-up midwife was contacted. Demographic data from women included parity, age (21 and under), gestation (weeks), and postnatal (days). Demographic data from midwives included years of midwifery experience (including MGP), and type of training (university/hospital). The tool contained a legend of category definitions to assist participants with recording client contacts as accurately as possible.

3.6. Data analysis

All data were de-identified before analysis commenced. Simple descriptive statistical analysis was undertaken using Microsoft Office Excel (2010) and SPSS (Version 15.0 for Windows). An SPSS file was created to accommodate the predefined variables. Data were cleaned and tested for normality and missing or incorrect data rectified. All variables were analysed to determine frequencies, and comparisons of all variables were analysed for significance. Where data were not normally distributed, non-parametric tests including Chi-square and Mann-Whitney, were used. Significance was set at 0.05. Phone calls refer to mobile phones as the midwives typically use landlines when in the hospital and for administrative purposes, but not for client contact. Some variables were categorised into sub-groups to assist analysis (e.g. gestation was grouped into time periods which correlated to pregnancy milestones). The postnatal period was grouped into (six) weekly cycles. Time of day was divided into three periods approximating hospital shifts: day (07:00–14:59), afternoon/evening (15:00–23:59), night (00:00–06:59). Although MGP midwives do not work a shift pattern, these time frames reflect normal working hours of hospital-based midwives in the tertiary setting

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