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Introducing video recording in primary care midwifery for research purposes: Procedure, dataset, and use

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ABSTRACT

Background: video recording studies have been found to be complex; however very few studies describe the actual introduction and enrolment of the study, the resulting dataset and its interpretation. In this paper we describe the introduction and the use of video recordings of health care provider (HCP)–client interactions in primary care midwifery for research purposes. We also report on the process of data management, data coding and the resulting data set.

Methods: we describe our experience in undertaking a study using video recording to assess the interaction of the midwife and her client in the first antenatal consultation, in a real life clinical practice setting in the Netherlands. Midwives from six practices across the Netherlands were recruited to videotape 15–20 intakes. The introduction, complexity of the study and intrusiveness of the study were discussed within the research group. The number of valid recordings and missing recordings was measured; reasons not to participate, non-response analyses, and the inter-rater reliability of the coded videotapes were assessed. Video recordings were supplemented by questionnaires for midwives and clients. The Roter Interaction Analysis System (RIAS) was used for coding as well as an obstetric topics scale.

Findings: at the introduction of the study, more initial hesitation in co-operation was found among the midwives than among their clients. The intrusive nature of the recording on the interaction was perceived to be minimal. The complex nature of the study affected recruitment and data collection. Combining the dataset with the questionnaires and medical records proved to be a challenge.

The final dataset included videotapes of 20 midwives (7–23 recordings per midwife). Of the 460 eligible clients, 324 gave informed consent. The study resulted in a significant dataset of first antenatal consultations involving recording 269 clients and 194 partners.

Conclusion: video recording of midwife–client interaction was both feasible and challenging and resulted in a unique dataset of recordings of midwife–client interaction. Video recording studies will benefit from a tight design, and vigilant monitoring during the data collection to ensure effective data collection. We provide suggestions to promote successful introduction of video recording for research purposes.

Background

Video recording of health care-provider (HCP)–client communication has become an accepted part of health care education and research. In education, video recording provides feedback on work habits by assessing communication during clinical performance. In research, video recording enables the assessment of communication

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performance or intervention fidelity as well as the confirmation of best practices in health care provider–client communication by observing daily practice, often in combination with other research measures such as questionnaires (Noordman et al., 2011; Rushmer et al., 2011; Van Dulmen et al., 2012).

In the Netherlands, nearly 80% of all pregnant women start obstetric care in a midwifery practice (Wiegers, 2009). In the first antenatal consultation, the midwife provides health education on a large number of important topics, e.g. on health life style such as smoking, drinking, weight gain, and on infectious diseases. In 2007, midwives became the primary counsellors for antenatal screening for congenital anomalies (Wiegers, 2009). To date, no research has considered how midwives counsel clients in practice, how they provide health care education during a consultation, or what topics are addressed during the first consultation. We felt video recorded HCP–client interaction in midwifery practices would be an ideal approach to studying these complex interactions.

We anticipated that the use of video recordings for research purposes in health care practice would be complex; however, very few studies describe the actual introduction and enrolment of the study, the resulting dataset and its interpretation. From a number of studies on video recording we extracted three elements that seem to shape the feasibility of a video recording study: introduction of the study, complexity of the data collection and intrusion of the video camera. A good *introduction* is crucial to the feasibility of the study. Both client and health care worker need to be briefed adequately in order to enhance participation (Van Dulmen et al., 2012). *Complexity* of the data collection refers to additional questionnaires that need to be completed, filling in of forms such as non-participant forms, and managing the actual recording. It has been found that a more complex research protocol results in reduced participation (Van Dulmen et al., 2012).

A third element to consider is the potential *intrusive nature* of the camera for both the health care worker and the patient. The actual recording could act as an intervention. However, there is little evidence that care providers behave differently when on camera (Wolraich et al., 1986) and in practice, the majority of patients do not object to being video recorded, as long as there are careful privacy and safety procedures (Pringle and Stewart-Evans, 1990; Van der Stouwe, 2010; Van Dulmen et al., 2012).

We found little information in the literature on the construction of a meaningful data set in terms of *quantity*: e.g. about how many recordings should be made in total and per health professional, how many health professionals should be included to allow for generalisability of the observations. It is our impression that the challenges encountered with the complex and time-consuming nature of video recording may in the end determine the amount of data collected rather than realising a predefined number of recordings.

In this report, we use a framework made of the elements extracted from the literature: introduction, complexity and intrusion, to which we have added *quantity* as a fourth important element to consider in planning and implementing video recording studies.

This is the first study in which midwife–client interactions in primary care midwifery practices in the Netherlands were video recorded. The purpose of the study was to gain insight into the midwife–client interaction in relation to the quality of care provided by midwives. There are very few papers recounting the complex recording process. This paper describes the introduction of video recording in midwifery practices for research purposes, the coding process, and the resulting dataset. Analyses of observational data are described in separate papers (Martin et al., in press; Pereboom et al., 2014).

Methods

The video study focused on the interaction of the midwife and her client in the first antenatal consultation. The study was embedded in the DELIVER study, a large scale multicentre multidisciplinary prospective national survey into the quality and provision of primary midwife led care in the Netherlands in which 20 midwifery practices and their clients participated (Klomp et al., 2008; Manniën et al., 2012; Spelten and Nieuwenhuijze, 2013). The design of the DELIVER study, including the video recordings of first antenatal consultations, was approved by the Institutional Review Board of the VU University Medical Centre as well as by the Medical Ethical Committee of the VU Medical Centre, Amsterdam, the Netherlands, supplemented by consent from all participating midwives.

Data collection: quantity of video recordings

In order to have an adequate sample to perform quantitative analysis and to develop consistency around our observations of communication for each midwife and across the group, we aimed to obtain at least 15–20 recordings per midwife and to include at least six practices across the country. The number of recordings was also based on the fact the sometimes the first recording needs to be discarded due to getting acquainted with video recording (Van den Brink-Muinen et al., 2004) and sometimes technical problems are encountered rendering the recording unusable. At recruitment for the DELIVER study, all 20 DELIVER practices, which were purposively sampled from the north, east, west, and south region of the Netherlands were automatically asked to participate in the video recording study, even though we anticipated that would be more than sufficient for our video data collection. All midwives in a practice were requested to participate; however in larger practices the number was set at a maximum of six midwives, to limit the relative influence of one practice on the entire dataset. In all participating practices, midwives decided which of them participated.

Midwives were eligible to participate if they (1) had a work contract at the midwifery practice; (2) were fully qualified midwives (e.g. not student-midwives); and (3) if antenatal counselling consultations were part of their usual work.

Clients were eligible if they (1) were new to counselling about antenatal congenital anomaly tests for the current pregnancy; (2) waived their right not to know about antenatal anomalies tests; (3) were aged 18 years or older; and (4) were able to read Dutch or English.

Data collection was carried out between June 2010 and May 2011.

Data management

All video recordings were digitalised, analysed in The Observer XT version 7.0 (Noldus et al., 2000). Coded data were transported to the statistical software package SPSS 20.0 (SPSS inc., Chicago, IL). Data from the analysis of the video recordings were entered in SPSS 20.0 together with the questionnaire data. Through anonymous patient numbers, data from the video recordings were connected to the questionnaire data and the medical record files of the DELIVER study.

Introduction of video recording research

Practices were first approached by phone, followed by written information to those who agreed to consider participation, and finally a visit was made to explain the study procedure.

For the recording, participating midwives received a camera, empty tapes, and a recording protocol. They were made familiar with the actual recording of the consultation: setting up of the