



Discussion paper

Using observation to collect data in emergency research

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ABSTRACT

Research questions require specific data collection techniques to appropriately explore and understand the phenomena of interest.

Observation as a term features commonly in the literature as a way to describe both the design of a study and methods deployed within procedures. Observation as a data collection method is a mode of inquiry to systematically collect information about different settings and groups. However, the objective of observation in data collection is to better understand the phenomena of interest situated in context. Specifically, observation data collection can improve understanding of practice, processes, knowledge, beliefs, and attitudes embedded in clinical work and social interactions. This pragmatic paper will assist emergency nurses and other clinicians to understand how observation can be used as a data collection method within clinical practice.

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1 Introduction

Observation data is obtained using naturalistic enquiry, and can assist to provide insight into how people share systems of meaning [1–3]. Observing practice can make explicit the processes embedded in clinical work and social interactions, exploring notions such as expectation, beliefs, power, motivation and identity [4,5]. In the clinical setting, researchers can collect data that is non-interventional or non-experimental in the clinical setting

[1,6]. Observation data typically answer research questions that explore clinical practice delivery and activities of healthcare; or how patients and or clinicians act or respond in a particular situation [7]. Data collected through observation are used to answer questions that generate new knowledge about clinical problems, groups (such as emergency nurses or other clinicians), patient cohorts and/or clinical practice in particular contexts of care [3]. In this way, the translation of data findings can improve the quality and consistency of care. The procedures used within the method can be structured or unstructured and may be qualitative or quantitative.

The aim of this pragmatic paper is to i) provide clinicians with an understanding of how observational fieldwork can answer clinical issues; and ii) provide clinicians with an understanding of and requirements for undertaking observational research in the ED.

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2 Planning and preparation

Planning and preparation is required for undertaking observations within clinical practice. When collecting observation data, the setting chosen for answering the research question is often referred to as the field [8,9]. Considerations for undertaking observations include site selection, entering the field, data collecting strategies, ethics and the need for a data interpretation framework.

To collect data within the field adequate preparation time needs to be allocated for negotiating access to the clinical area with the system gatekeepers. Early identification of, and meetings with, key departmental and organisational stakeholders is critical to avoid unnecessary delays, improve support and data collection [10,11]. For example, if setting up a study in an emergency department, senior staff such as the Director of Emergency Medicine, Nurse Managers, and Clinical Nurse Educators would be key stakeholders who need to understand and support the research. Depending on the nature of the study, other stakeholders such as site Directors of Nursing or Operations/Program/Executive Directors may need to be engaged. Further negotiation with key ED stakeholders to facilitate opportunities to inform staff about the study will better prepare and inform participants for data collection [12].

Pre-observation visits to orientate the researcher should be organised prior to data collection. Clinician researchers must remain sensitive to the clinical environment and have an open and honest approach with a strong focus on privacy, confidentiality and finally, research interests. Repeated site visits provide opportunity to strengthen positive field relations by demonstrating commitment and genuine interest [13,14]. By conveying openness, interest and enthusiasm a richer understanding of phenomenon is likely as participants will be more responsive and engaged during fieldwork.

Observational data is reliant on establishing and maintaining positive field relationships [15]. To establish positive relations, researchers need to meet with the key stakeholders and become familiar with the physical environment to assist orientation. At all times the clinician researcher must be cognisant that they are guests in the clinical setting, even if the setting is their usual workplace [13,14]. To further promote a positive fieldwork relationship, the researcher may consider offering participants the opportunity to read extracts when asked during data collection. The support of senior staff and relationship building are fundamental to collecting observation data and as such should be carefully and strategically planned.

Prior to entering the field, the clinician researcher must decide whether the observations will be collected as a 'participant' or 'non-participant' observer [16,17]. The study design and its theoretical or conceptual framework determine this. Participant observation requires the researcher to take an active role within the setting, activity or organisation. An example of participant observation could be exploring the role of the resuscitation nurse by actually undertaking the role. Non-participant observer requires the researcher to observe activities, processes and interactions without any active involvement in the scene. In non-participant observation, the clinician researcher is in a purely researcher role and has no clinical care responsibilities. However, non-participant observation does not preclude the researcher from seeking clarification from participants during the data collection process.

Observation data can be collected using a structured or unstructured approach [18,19]. During structured observation, data is collected using tools that categorise or group data. Researchers may use existing data collection tools and or checklists that have established reliability and validity or tools developed specifically for the study. Structured data collection tools usually have pre-defined and observable categories established prior to the study commencing [11,15]. For example, a tool may comprise items that are anticipated

being evident within a setting and may include expected resuscitation steps, procedural steps or team interactions. These broad categories and listed sub-items should be determined through pilot work, research evidence and the research aims should be a major consideration in category selection. For structured observation the researcher seeks only to capture the predefined event, behaviour or activity.

Structured observation is well suited to exploring specific situations or activities such as equipment utilisation, processes of care and clinician and patient interactions [20,21]. During unstructured observation, researchers seek to capture everything that is occurring within the setting without any predefined categories and or priorities. Unstructured observations are often used by researchers to explore attitudes, values, belief, satisfaction and social processes [12,22]. For example, using unstructured observations Fry [12] sought to understand how attitudes and beliefs influenced triage decision-making within the context of emergency care.

Pragmatism is often a classic theoretical approach to observational fieldwork [23,24]. As an approach this permeates every aspect of the research and fieldwork. For example, duration and time frames for data collection for clinician researchers can range from hours to years [25]. Clinician researchers need to consider the most appropriate timing, frequency and duration for data collection before commencing in the field. The requirements for data collection and the duration should be based on the research question and demands and limitations of the clinical context. For example, to best answer questions related to shift work activities or communication, observation data would need to be collected at the specific time when the event, activity or situation may be anticipated to be observable. When undertaking observations, the clinician researcher must decide on the likely frequency and duration of the fieldwork needed to answer the research question, but be of sufficient duration to minimise behavioural change associated with researcher presence. Costing implications may also need to be considered when determining the frequency and duration of data collection in the preparatory phases of the study.

3 Data collection and fieldwork

Collecting data and managing fieldwork is complex and requires balancing a sensitive, open and honest approach with privacy, confidentiality and finally, research interests. For collecting observation data, the clinician researcher must act as an 'instrument' that filters through the myriad of contextual processes and brings to the fore the elaborate and situationally responsive characteristics of human behaviour and activities, thereby capturing the distinctive patterns within a setting [3,26]. During fieldwork, researchers are confronted by choice about what to observe and record, which events to follow, and what could be safely ignored [11]. In part, a researcher's decision about what to record is determined by the theoretical underpinning of the research and the aim of the study. Observation data collection can involve audio recording, video and/or the writing of field notes, which capture the scope of observations of how people share systems of meaning to orientate activity and behaviour [1,12]. However, the use of tools to structure data collection may focus the clinician researcher and assist to reduce the time needed in the field [26].

Unstructured field notes are an accepted means for recording observational data [15]. When possible field notes should be written in full text. Conversational language, along with intent, utterances, pauses and syntax can be recorded, although capturing language verbatim is often difficult and so invariably field notes capture only a portion of the language being spoken. Field notes can include 'speech in action', and by being familiar with the lan-

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