Emergency nursing (2): qualitative research in Emergency medicine; design and areas of applications in emergency care

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Research in emergency medicine has increased in recent years[1]. The International Curriculum of Emergency medicine (EM) includes plans to develop research skills and competencies[2]. The development of a research project is determined by the investigator's academic training, the methodological guidance received and the profession[3]. On tackling a clinical matter and formulating the research question, the methodological approach will vary[4]. In healthcare, the main trend is to use a quantitative methodology (cohort studies, clinical trials), more designed to answer the question How much? or What is the relationship between x variables? than to answer questions of How? And Why?[5]. Qualitative research is a tool for performing interventions based on evidence, to help understand the perspective of patients and what the medical attention and care they receive means to them[6]. The objectives of this essay are to describe: qualitative study designs used in health sciences, quality control of qualitative studies, and areas of application in current EM.

Qualitative methodology

Qualitative studies are designed to investigate issues such as the experience and behavior of patients, family and professionals[7]. They help us understand phenomena and situations within a particular context, generate and redefine new theories to meet dynamic and changing realities7.

They are used to study groups, minorities, the experience of illness, the influence of social factors (ethnicity, resources)[8], teaching methods in medicine and evaluation of health services[3]. Qualitative research focuses on the social world, on people and not the disease. It is concerned with understanding the meaning of certain conditions for professionals and patients, and how their relationships are built in a particular social context[5].

Qualitative designs

In qualitative methodology there is a wide range of theoretical approaches[9]. In health science, this includes grounded theory (GT), phenomenology and ethnography[9,10].

Phenomenology and personal experience

Phenomenology, one of the movements in contemporary European philosophy, focuses on the "subjective reality" of an observable event or phenomenon as perceived by people (social actors) in a given social context e.g. sickness, suffering, loss[8]. It attempts to describe and understand the essential significance of the experience[10]. The role of the investigator is to provide a window to that experience[10]. The main instrument for data collection is the unstructured interview and analysis of daily and/or personal documents (letters, blogs) of people who have experienced this type

of situation. The interview begins with general questions so as not to direct the participant. The analytic method focuses on describing issues considered the essence of experiencing a phenomenon[5]. It is performed through coding and classifying data, which are grouped by common meanings, to identify topics that explain this phenomenon[10]. Ahl et al[11] studied the experience of family members making a call to an emergency service. The critical moment for patients and family members was when they realized the seriousness of the situation and had to act, making the emergency call.

Ethnography and culture

This is derived from anthropology and the study of cultural practices. Ethnography studies the social interaction and behaviors that occur within groups, teams, organizations and communities[12]. It involves integration of the investigator, living amongst those studied, and participation in their social habits[8]. The role of the investigator is to document the culture, perspective and practices of people in their social and cultural context. The world should be seen through their eyes[12]. The main instruments of data collection are participant observation and informal interviews[5]. The elements to be recorded during the observation are: the place, the actors, the activity taking place, the relationship between them, the sequence of time between activities or the main event observed, and the emotions expressed[12]. The analysis focuses on examining the data to identify and categorize key concepts that emerge. Through this analysis, by induction, theories are generated to answer the study question[12].

Pitchforth et al[13] studied how being a woman, poor, and belonging to a certain caste influenced emergency obstetric care in Bangladesh. Within the professional options, the decision to use poor relief funds to assist women was determined by the presence of family members who accompanied her. Sometimes another option was "to wait" on not being able to finance the care process, with increased risk that the state of the patient could worsen.

Grounded theory and the study of processes

This theory was developed in sociology, in symbolic interactionism[10]. GT centers on describing, analyzing and interpreting the processes of complex realities[9]. It analyzes those elements that form part of a change (there is a before and an after) and generates explanatory theories of that process and social realities. It is often described as a design that does not stem from a clear theoretical principle, but builds theories and principles through the collection and analysis of data[9]. The explanations and theories proposed are based on and emerge from the data obtained. GT involves inductive analysis, from the field of study, through which it builds a theory or answers the question What's going on? It is characterized by the process of systematic data analysis and the constant comparison method[9]. The role of the investigator is to observe, avoiding theories or preconceptions if possible, and transfer the data to models or patterns without previous analysis[8]. Because there are different actors in different contexts and at different times, the instruments of data collection will be those that allow the investigator to study the elements of the process: semi-structured interviews, participant observation and focal groups. The interviews contain preset questions resulting from previous interviews (pilot study) and/or literature review.

Focal groups made up of participants meeting the study criteria serve to obtain and analyze the opinions and perspectives of a homogeneous group with respect to a common situation (affected by a disease or catastrophe). The analysis is performed after data encoding and categorization which may be open, axial or selective. The resulting categories allow constructing a new theory, validating or debunking an existing theory.

Kennedy et al[14] studied the pressure on medical students to be independent. The results showed that part of that pressure was self-imposed as a way of claiming personal identity as a physician. They also avoided asking for help, despite possibly endangering patient safety.

The investigator's role in qualitative designs

In qualitative research, the investigators form part of the data collection instrument[15].

They are integrated into the social context of the participants (field work). They not only apply an instrument (in-depth interviews, focal group formation) but also make inferences, establishing contact with key informants and developing comparisons between cases in order to discover the key issues based on participant responses[7]. Since they are part of the method, the investigator who has collected the data and been in the context should undertake the analysis. Only someone who

Table 1. Qualitative designs

	Objective	Orientation	Origen	Research question	Study objective	Data collection
Phenomenology	Describe the experience	Direct experience of individuals	Philosophy	What was the direct experience of the event or phenomenon	Participants with direct experience of the event or phenomenon or situation	In-depth interviews. Documents generated by participants.
Ethnography	Describe interactions within a culture	Influence of culture in groups and communities	Anthropology	What is the relationship between members of a particular culture (team, organization) in the vent of conflicts?	Members of the group community under study	Observation of participants. Informal interviews.
Grounded theory	Hypotheses are generated and tested via theories based on data collected	Development of the process	Sociology	How does the process of decision-making develop in the situation or problem?	All participants in the process under study	Semi-structured interview. Observation of participants. Focal groups.

has direct experience of the social environment of the participants can understand their meanings. The context is the compass that guides the investigator and helps to determine what is relevant when analyzing the data[15].

Quality and rigor of qualitative designs: validity and verification

A sign of quality in qualitative designs is the production of narratives providing evidence of the interpretations and conclusions of the study of a particular social situation[16]. The correct use of extracts from interviews helps to show that the results are derived from participant narratives, are identified, organized and underlie the investigator's interpretation[15,16]. The validity of a qualitative study is based on this.

Verification is established in two ways[16]. First, verification is seen as a process of negotiation between investigators and participants. They show their results and the participants check whether the interpretations of investigators are correct[15]. The second is to confirm the observations made by the investigators. The use of techniques such as triangulation (using multiple instruments for data collection), peer review (to explore certain aspects of the investigation, otherwise they remain only in the mind of the investigator), external audits (the purpose is to evaluate the accuracy of the data, and that the conclusions are supported by the data), or evaluation of data and results by team members[16]. As in quantitative studies, there are also recommendations to assess qualitative designs, using the Consolidated Criteria for Reporting Qualitative Research (COREQ)[17].

Application of qualitative designs in Emergency Medicine

– Complex social situations: in a population at risk of exclusion, Henderson et al[18] studied how the social stigma associated with drug addiction can affect attendance by professionals.

– Influence of culture and perception of disease: Farquharson et al[19] found that the meaning ascribed by patients to a disease was based on their cultural and ethnic backgrounds, which influenced the way they perceived the signs and symptoms, resulting in delay or overload of the emergency call system.

– Values: Sine and Northcutt[20] studied ethical values in EM professionals. They showed how these professionals had to make decisions involving ethical conflicts, without time for reflection or consensus, reflecting their ethical and moral codes.

– Emergency Medical Services (EMS) management: other studies have assessed how teamwork is organized in EMS, member characteristics, leadership and decision making[21]; or thay have detected barriers to the actual implementation of care protocols[22] and during the transfer of patients between hospitals. Bosk et al[23] identified that a key element in the process of patient transfer was the informal relationships between the professional responsible for transfers and the receiving center.

– Quality of emergency services: this area of research studies patient participation in the decision-making process during an emergency[24]. It analyses the perception of patients and families about their attendance and the attending health professionals[25], and the relationship between professionals and patients[26].

– Patient assessment: here the focus of study

could be an analysis of triage and what factors influence a particular decision and what elements support the professional's decision to adopt one or another option[27].

– The professional's perspective: this area analyzes professional activity and the risks involved[28] and psychological effects[29] of working in the field of EM. Chelenyane and Endacott[28] described EMS professionals' perceptions of the risk of HIV infection, their beliefs and the protective measures they adopted.

– Emergency medicine training: this area studies the development of the learning process, which methods are most suitable, simulation versus real cases or clinical mentors[30].

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