

# The definition of methodology



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The purpose of this chapter is to present the research methodology adopted in this study. It first outlines the philosophical assumptions underpinning this research, discussing the researcher's constructivist approach. The next section defines the scope and rationale for the research design, and details of data analysis. It also provides an overview of the data collection methods used for this research. The chapter concludes by discussing issues of rigor and trustworthiness and ethical considerations.

### 3. 1. 1 Definition of Methodology

According to Polit and Beck (2004) methodology refers to ways of obtaining, systematizing and analysing data. Creswell (2003) portrays methodology as a coherent group of methods that harmonize one another and that have the capability to fit to deliver data and findings that will reflect the research question and suits the researcher's purpose. Bowling (2002) explains that methodology is the complete structure of the research study; the size and sample methods, the practices and techniques utilized to collect data and the process to analyse data.

### 3. 2 Research Design

Burns and Grove (2002) define a research design as a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings. The overall purpose of this study is to contribute further to the role-definition process of the ambulance nurse in Malta. In order to reach the overall purpose of this study a qualitative exploratory descriptive design will be used to identify, analyse and describe factors related to the nature of interventions and care nurses deliver in the

pre-hospital setting and to explore barriers and facilitating factors perceived by ambulance nurses that hinder or enhance PHC in Malta.

### 3. 2. 1 Research Philosophy

The context in which research is carried out establishes where the researcher wants to go with the research and what is sought to be achieved. It is therefore imperative that the researcher is clear about the paradigm issues that guide and enlighten the research approach, as they are reflected in the methodology applied in the research and help place the research into a broader context (Thorpe & Lowe, 2002). This research study is associated with the constructivism paradigm. Consequently, the researcher will discuss the ontology and epistemology in relation to this research.

#### 3. 2. 1. 1 Constructivism

Constructivism seeks to undertake research in its natural setting; therefore, constructivism which is developed from the naturalistic philosophy disputes positivism and post-positivism views of knowledge and science (Appelton & King, 2002). Thus, the aim of constructivism is to identify the diverse knowledge that people own, this is done by seeking to attain some consensus of meaning but at the same time remaining open to new explanations (Denzin & Lincoln, 2003). Constructivist research, therefore, may identify a spectrum of diverse views and insights that would be overlooked within the narrow confines of conventional positivist inquiry.

In view of these issues, constructivism is the most indicative research paradigm to use for this research as this philosophy will aid in exploring

through description participants experiences, views and thoughts in a more humane way, by presenting ambulance nurse's quotes and developing themes rather than presenting results in statistical form.

### 3. 2. 1. 2 Ontology

When considering a research paradigm, the researcher's first requirement is to locate a position on the nature of reality (Appelton & King, 2002). In the ontological theory, reality is subjective and multiple as seen by the participants in the study. Hence the researcher will use quotes and themes in words of the ambulance nurses to provide evidence on different perspectives. This is done by articulating, appreciating and making the research participants' voices and concerns and practice visible. In the constructivism stance, the researcher is obliged to give a true picture of reality (Schwandt, 2001).

Truth is achieved by seeking to comprehend the shared meaning and embedded meaning of both the participants and the researcher. This may be apprehended by building up a researcher-participant interaction in the natural environment rather than in a controlled environment (Denzin & Lincoln, 2003).

### 3. 2. 1. 3 Epistemology

Conversely, in the epistemological assumption the aim of the researcher is to try and lessen the distance between what is being researched and oneself (Creswell, 2003). Within constructivism, the ontology and epistemology

merge because the knower is inseparable from what may be known within the overall construct of a particular reality (Schwandt, 2001).

The constructivist, ontological and epistemological positions have specific implications for me as a researcher wishing to explore these ambulance nursing issues. As a staff nurse working in another ambulance service, I acknowledge that my account of reality of PHC may serve to enhance the description of the phenomena under study. My role as a researcher is to be actively engaged with the research process. Therefore, an emic position is taken which allows me to build data, which is generated rather than collected. Within constructivism, the ontology and the epistemology approaches are interwoven and cannot be detached as with the positivist and post positivist paradigms (Appelton & King, 2002).

### 3. 2. 1. 4 Disadvantages of Constructivism

Constructivism, whilst being an ideal paradigm for the inquiry may have its own limitations and it is central that the researcher takes these into consideration. A limitation of constructivism is that by trying to explain the phenomena, the researcher will be stuck in trying to give an infinite number of interpretations which may result in less explanatory power (Appelton & King, 2002).

Thus, working with the constructivism paradigm, the researcher is obliged to be conscious in seeking equilibrium between the contribution of informants and one's own to ensure an authentic account of the phenomena. Moreover, certain issues and steps in the methodology of this study were taken into consideration in order to avoid any pitfalls.

### 3. 2. 2 Qualitative Research

Qualitative research refers to inductive, holistic, emic, subjective and process-oriented methods used to comprehend, interpret and describe a phenomena or setting. It is a systemic, subjective approach used to describe meaning (Burns & Grove, 2003). Qualitative research is more associated with words, language and experiences rather than measurements, statistics and numerical figures.

Researcher's using qualitative research take a person centred and holistic perspective to understand the phenomenon, without focusing on specific concepts. The original context of the experience is unique, and rich knowledge and insight can be generated in depth to present a lively picture of participants' reality and social context (Holloway, 2005). Regarding generation of knowledge, qualitative research is characterised as developmental and dynamic, and does not use formal structured instruments. In turn it involves the systemic collection and analysis of subjective narrative data in an organised and intuitive fashion to identify the characteristics and significance of human experience (Holloway, 2005).

Qualitative researchers are concerned with the emic perspective to explore the ideas and perceptions of the participants. The researcher tries to examine the experience from the participant's point of view in order to interpret their words. The researcher therefore becomes involved and immersed in the phenomena to become familiar with it. The immersion of the researcher helps to provide dense description from the narrative data gathered from the participants, to interpret and portray their experiences,

and to generate a more comprehensive understanding. However, immersion cannot be obtained without a researcher-participant trusting relationship. The relationship is built through basic interviewing and interpersonal skills. In qualitative research, the researcher is required to be a good listener, non-judgemental, friendly, honest and flexible. Brink and Wood (1998) point out that the qualitative data collection methods are flexible and unstructured, capturing verbatim reports or observable characteristics and yield data that usually do not take numerical forms.

### 3. 2. 3 Qualitative Description Approach

Within a qualitative framework, and an interpretive stance, this research is concerned with identifying and describing factors regarding the pre-hospital nursing care in Malta. For this study a qualitative descriptive research design will be used. Sandelowski (2000) points out that a qualitative descriptive study is seen as less interpretive than interpretive descriptive studies as they do not require researchers to move as far into their data. However, all inquiry entails description, and all description entails interpretation (Sandelowski, 2000).

Although no description is free of interpretation, basic or fundamental qualitative description, as opposed to, for example, phenomenology or grounded theory description, it necessitates a kind of interpretation that is low inference, this low inference interpretation in qualitative descriptive studies entails the presentation of facts in an everyday language (Neergaard et al. 2009).

#### 3. 2. 3. 1 Design features of Descriptive Qualitative Research

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Qualitative descriptive design is a typical eclectic but reasonable design that well considers a combination of sampling, data collection, analysis, and representational techniques (Neergaard et al. 2009). Sandelowski (2000) explains that qualitative description is especially amenable to obtain straight and largely unadorned answers to questions of special relevance to practitioners and policy makers. Neergaard et al. (2009) explicate that the qualitative descriptive design favours to use an interview guide somewhat more structured than other qualitative methods though it is still modified and transformed as themes emerge through analysis. They continue to explain that the strategy of content analysis is the most commonly used method of analysis in qualitative description (Neergaard et al. 2009). A straight descriptive summary is the likely outcome of qualitative descriptive studies, which should be organized in a way that best encloses the data collected (Sandelowski, 2000).

### 3. 2. 3. 2 Strengths and Weaknesses of Descriptive Qualitative Research

All research methods have their limitations, and qualitative description is often criticized for lacking of clearness and the lack of theory based approach (Giorgi. 1992). However, this criticism is only vindicated if qualitative description is used for the wrong principles. Neergaard et al. (2009) emphasize that qualitative description should be the method of choice when a description of a phenomena is wanted. Furthermore, qualitative description has been criticized for its lack of rigor and for being flawed, when it comes to judging its credibility. However, Milne and Oberlee (2005), converse about enhancing rigor in qualitative description by focusing on strategies such as authenticity, credibility, criticality and integrity.



Qualitative description may be seen as too subjective because description is always attributed to the researcher's perception, inclinations, sensitivities, and sensibilities (Sandelowski, 2000). In order to reduce this, the researcher must put an emphasis in meeting the criteria of integrity and neutrality (Milne and Oberlee, 2005).

Qualitative description may be seen as a functional method when the researcher intends to focus on describing experiences of patients, relatives and health care professionals and when the researcher wants to understand their views on patient-professional interaction and the organization of the health care system (Sandelowski, 2000). Strength of qualitative description is more evident in mixed method approaches and in studies which need to develop their own questionnaire. Neergaard et al. (2009) point out that qualitative description performed prior to the development of a questionnaire or an intervention can give very significant and useful information. Qualitative description has also been an appropriate qualitative method for small interview studies where one needs to gain preliminary insight into a particular topic (Neergaard et al. 2009). Sandelowski (2000) also highlights a great advantage of the method is that it is suitable if time or resources are limited.

### 3. 2. 3. 1 Rational for choosing descriptive approach

According to Burns and Grove (2003) descriptive research “ is designed to provide a picture of a situation as it naturally happens”. It may also be used to justify current practices and identify factors that hinder or enhance practice as one gets a whole picture from the informants (Burns and Grove,

2003). Qualitative descriptive study is the method of choice when straight descriptions of a phenomena are desired, Sandelowski (2000) explains that qualitative description is especially useful for researchers wanting to know who, what and where of events.

Qualitative description will be used in this study to describe and document the perceptions and experiences of what different skills are used while delivering PHC and when they are mostly used. The design will also be used to explore what facilitators and barriers are encountered when delivering PHC.

### 3. 3 Population and Sample

#### 3. 3. 1 Population

Parahoo (2006) defines population as “ the total number of units from which data is collected”, such as individuals, artefacts, events or organizations.

Burns and Grove (2003) describe population as all the elements that meet the criteria for inclusion in a study. They continue to explain that the researcher must recognize a list of characteristics that requisite to be eligible part of the target population.

The criteria for inclusion in this study were staff nurses who work in Accident and Emergency Department at Mater Dei Hospital, and have at least five years PHC experience.

#### 3. 3. 2 Sample

Polit and Beck (2004) define a sample as “ a proportion of a population” The sample was chosen from the target population as defined in the inclusion and exclusion criteria. A carefully selected sample can offer data representative of the target population from which it is drawn. However, the aim of qualitative research is to raise insight into a phenomenon rather than assume representativeness. To reach the purpose of this study a purposive sampling technique will be used. Bowling (2002) explains that a purposeful sample is a deliberate and non random method, which aims to sample a group of people with a specific characteristic. The main characteristic of the selected participants in this study is being knowledgeable about the topic, because of their involvement and experience in PHC. Sandelowski (2000) explains that purposive sampling is a preferred method when using qualitative description as it is deemed information rich.

### 3. 3. 3 Sampling process

The sampling process for this study was carried out in two phases, purposeful sampling for the interviews and a random selection from a group of purposeful selected participants.

#### 3. 3. 3. 1 Phase 1

For the first phase of data collection eight nurses were purposely selected for semi-structured interviews. Purposeful sampling methods were used based on the nurses who have special training in pre-hospital and are considered more experts in the field. This non-probability sampling technique was used since the researcher wanted to get a more in depth description of the pre-hospital nursing care offered. The researcher informed the nursing officer to <https://assignbuster.com/the-definition-of-methodology/>

distribute an invitation letter to the selected participants and those that agree to participate in the study were given a consent form.

### 3. 3. 3. 2 Phase 2

The sample for second phase where the focus group was carried out was selected randomly from purposefully selected nurses who satisfied the selection criteria (5 years experience in the ambulance service), since the aim of the focus group is to identifying specific issues commonly related to nursing care in the pre-hospital setting. Ten to twelve nurses were randomly selected by the nursing officer who presented them an invitation letter with information about the study. Those who accept the invitation were asked to consent their participation in the focus group by filling out a consent form after having had their queries addressed by the researcher.

## 3. 4 Data Collection

Qualitative data collection is the precise, systemic gathering of information relevant to the research problem, using methods such as interviews, participant observations, focus group discussions, narratives and case histories (Burns and Grove, 2003). Data collection techniques in qualitative description usually include minimal to moderate structured interviews and focus group interviews (Neergaard et al. 2009).

### 3. 4. 1 Methods of Data Collection

Data was collected in two phases. Phase one included data collection by means of semi-structured interviews, where the researcher interviewed nurses who are experts in the field and by the way of their clinical

experience and having received specialized training in PHC. Phase two included a focus group which had the aim of identifying specific issues, and add quality to the data obtained from the interviews. The data will be presented and discussed in the results and discussion chapters respectively.

### 3. 4. 1. 1 Semi Structured Interviews

According to Kvale (1996), using a qualitative interview offers the researcher an opening to understand the phenomena under study from the perspective of the interviewee. In this study face to face semi-structured interviews were deemed appropriate as this method is particularly efficient in collecting data which involves opinions and perceptions. Polit and Beck (2004) converse that when performing semi structured interviews the researcher has to prepare in advance a written topic guide, which is a list questions to be covered by the respondents (Appendix 2). The interviewers function is to encourage participants to talk freely about all topics on the list, and to provide as much detail as they wish, and offer illustrations and explanations (Polit and Beck, 2004).

### 3. 4. 1. 2 Advantages of interviews

Among the main advantages of semi structured interviews there are the benefits of conversation that is carried out between the researcher and the informant. However, the conversations are purposeful ones that require advance thought and preparation, so the researcher must not enter into them casually. These face to face interviews can probe fully for responses and clarify ambiguities. Bowling (2002) points out advantages of interviews are that one can check misinterpretations and inconsistencies, and that

interviews can provide rich quotable material which enlivens research reports. Kvale (1996), also find interviews beneficial to the participants as they can freely communicate their perceptions and experiences to the researcher.

#### 3. 4. 1. 3 Disadvantages of interviews

Nevertheless, despite the many advantages of interviews, there are some limitations for this method of data collection, mainly the fact that interviews can be expensive and time consuming, and there is the potential of interview bias. According to Bowling (2002) techniques for reducing interview bias include good interview training and managing to establish rapport with the participants by putting them at ease, and appearing non-judgmental.

#### 3. 4. 1. 4 Focus Group interviews

Another method of data collection used in this study is a focus group interview. Neergaard et al. (2009) recommend the use of focus groups when using qualitative description as focus group interviews seem pertinent to get a broad insight into a subject. According to Parahoo (2006), a focus group discussion is an interaction between one or more researchers and more than one participant for the purpose of collecting data. Holloway (2005) states that in focus group discussion researchers' interview participants with common characteristics or experiences for the purpose of eliciting ideas, thoughts and perceptions about a specific topic or certain issues linked to the area of interest. Therefore, in this study the researcher will carry out a focus group discussion with the nurses who deliver PHC, based on findings

from previous face to face interviews to elicit discussion on the objectives of the study.

### 3. 4. 1. 5 Advantages of focus group interviews

Focus group discussions have several advantages in obtaining qualitative data. Contrary to face to face interviews, focus group meetings are cheaper, and are quicker in obtaining valuable data (Parahoo, 2006). Bowling (2002) points out that one of the main strengths of focus group meetings is that it makes use of group dynamics which stimulates group discussion to gain insight and generate ideas in order to pursue a topic in greater depth. Parahoo (2006) also points out that participants are provided with an opportunity to reflect and react to the opinion of others with which they may disagree or of which they are unaware. Holloway (2005) also finds focus groups advantageous as they give the opportunity to the participants and researcher to ask questions and informants can build answers on others responses.

### 3. 4. 1. 5 Disadvantages of focus group interviews

Nonetheless, Holloway (2005) also highlights limitations of a focus group as the researcher may find difficulties in managing debate and controlling the process. A disadvantage in focus group discussion may also be due to some participants being introvert while others may dominate the discussion and influence the outcome, or perhaps even introduce bias (Holloway, 2005). Therefore, the researcher must create a good climate to stimulate all informants to participate and keep a balance between participants. Another disadvantage when using a focus group to collect data is the fact that

recordings can present problems. Parahoo (2006) stress that taking notes during focus group discussions is not feasible since many people may be talking at the same time. They also point out that tape recordings may only record those that are nearer to the recording making transcription a problem.

### 3. 5 Data Analysis

Data analysis is a mechanism for reducing and organising data to produce findings that require interpretation by the researcher (Burns and Grove 2003). Field and Morse (1996) points out that data analysis can be a challenging and creative process characterized by an intimate relationship of the researcher with the participants and the data gathered.

#### 3. 5. 1 The researcher's role in data analysis

As researcher reflexivity, bracketing and intuiting were used to lay aside preconceptions regarding the phenomenon being studied and also carried out data analysis simultaneously with data collection. The intellectual process identified by Field and Morse (1996) were followed during data analysis. These comprise of comprehension, synthesising, and theorising. The researcher synthesises the data by putting the pieces together which will enable the researcher to comprehend what is actually going on, then the researcher can prepare a detailed description of the phenomenon under study and give explanations and determine correlation with data gathered (Field and Morse 1996).

#### 3. 5. 2 Content Analysis



Qualitative content analysis is the analysis strategy of choice in qualitative descriptive studies (Sandelowski 2000). Qualitative content analysis is a dynamic form of analysis of verbal and visual data that is oriented towards summarizing the informational content of the data (Polit and Beck 2004). Bowling (2002) explains that with content analysis, the key themes and concepts are identified in the transcripts, and are categorised.

Sandelowski (2000) explains that qualitative content analysis is a reflective and interactive process, where the researcher continuously modify their treatment of data to accommodate new data and new insights about the data gathered. Content analysis was carried out for the analysis of data from both face to face interviews and focus group discussion.

### 3. 6 Robustness of Study

Critiques of qualitative research may argue that it is impossible to ensure a positivist approach of validity and reliability in qualitative work; however, naturalistic researchers have adopted other measures to ensure rigour and trustworthiness of the qualitative study (Shenton, 2004; Silverman, 2001). In order to pursue a rigorous and trustworthy study, the constructs proposed by Lincoln and Guba (1985), will be followed. These four constructs consist of credibility, transferability, dependability and confirmability.

#### 3. 6. 1 Establishing Rigor and Trustworthiness

A research study is trustworthy when it reflects the reality and ideas of the participants. Lincoln and Guba, (1985) add that trustworthiness of research depends on the extent to which it delves into participants experiences apart

from their theoretical knowledge. In this study trustworthiness was guaranteed by the researcher by putting aside preconceived ideas about the phenomenon under study and returned to the informants to ascertain that the description was a true reflection of their opinions and perceptions.

According to Polit and Beck (2004) credibility is similar to internal validity in quantitative research. Adopting a well established research method is one measure that can confirm credibility and ensure internal validity of the study. Bowling (2002) recognises the importance of incorporating correct operational measures for the concepts being studied. Therefore, importance was given so that the most adaptable methodology and methods used were suitable for this study. A thick description of the phenomenon under scrutiny was conveyed in detail so the actual situation that was investigated is understood. Lincoln and Guba (1985), stress the close ties between credibility and dependability, arguing that, in practice, a demonstration of the former goes some distance in ensuring the later. Without this detailed description it will be difficult for the reader of the final account to determine the extent of credibility and dependability.

Another measure to ensure credibility is that the researcher shows familiarity with the culture of the participating organisation. Since the researcher works in a similar setting and was previously employed in the department which is being studied, gives the researcher a good understanding of the culture of the participants. However, the researcher must give special attention so that professional judgements are not influenced and must acknowledge this in order to reduce researcher bias.

According to Shenton (2004), random sampling is also a great way to guarantee credibility and can help to reduce the researcher's bias. However, random sampling in qualitative research may not always be possible. In this study a purposive selection technique was used to give the researcher control in choosing participants with different levels of experience. Even though a purposive selection was carried out, participants had the right to withdraw from the study and they were not required to disclose an explanation. Besides being ethically correct this ensured that participants were genially willing to take part in the study and that they were prepared to offer data freely giving more credibility to the study.

Lincoln and Guba (1985) consider member checks, peer scrutiny and debriefing sessions important provisions that can be made to bolster a study's credibility and reliability. The researcher checked data during collection and perform dialogues with participants. Informants were also asked to read transcripts in which they have participated for verification.

The researcher carried out debriefing sessions with supervisors and was open to peer scrutiny, in order to help identify the development of new ideas and interpretations which may assist the researcher to refine the research methods and strengthen arguments brought up from data collected. These meetings also helped the researcher recognise any biases.

Transferability is related to the external validity of the research project. Since qualitative assignments are specific to a small number of particular environments and individuals, it is practically impossible to demonstrate that findings are applicable to other situations (Shenton, 2004). However, in order

to offer transferability of findings the researcher ensured that sufficient contextual information about the phenomenon under investigation was provided to allow readers to have a proper understanding of it.

### 3. 7 Ethical Considerations

Research has many ethical implications and participants rights, such as the right to refuse to participate to the study, right to refuse to answer certain questions, the right for confidentiality and the right for informed consent, which should at all time take precedence over research objectives (Parahoo, 2006). Therefore, throughout all the stages of research process, it was ensured that ethical principles were maintained so participants were safe guarded against harm. Participants had the right to choose not to participate and similarly the right to withdraw at any point.

In this regard, participants were informed of the study in writing and were asked for their consent to participate to both the face to face interviews and the focus group. The consent letters were distributed to the nursing officer who was instructed to pass these on to the selected nurses. In the consent letter, participants were informed about the confidentiality of their responses and also that some of the responses might be quoted to add value to the presentation of results and discussion in the study. However, they were also ensured that measures were taken so that no individual respondent was identified. After completion of the study all data collected and recordings of interviews and the focus groups will be destroyed.

Gathering of all relevant permission from the hospital authorities, Data Protection Officer and University Research Ethics Committee of the University of Malta to carry out this research study were sought. (Appendix)