

Qualitative research design and methods in dentistry: a survey of opinions of Nigerian resident doctors training to become specialists

Abstract

Objective: To survey the opinion of resident doctors in Nigeria who are training to become specialists on the use of qualitative approach to research design and methods in Dentistry.

Methods: Semi structured questionnaires containing 10 categories were sent to 20 dental residents doctors who are training to become specialists in the three training centres in Nigeria, Sixteen questionnaires were completed and returned (80%).

Results: The results are as follows, all the residents (100%) were familiar with the term 'qualitative' but none of them had ever conducted a qualitative study and none was familiar with the main approaches to qualitative studies. All the residents (100%) were familiar with quantitative study design and claimed it was easier to understand than qualitative research design. Eight residents (50%) categorised qualitative research design as social sciences, 4 (25%) residents categorised qualitative research as sciences, while 4 (25%) were not sure. Ten of the residents (87.5%) would conduct qualitative studies if they were further informed and have better understanding.

Conclusion: Qualitative approach to research in dentistry may be useful to understand meanings which patients attach to actions, decisions, beliefs and values concerning their care. Research in dentistry should consider using both quantitative and qualitative research design and methods.

Keywords: research design, dentistry, resident doctors, Nigeria

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Introduction

In the curriculum of postgraduate dental training in Nigeria, to qualify as a specialist, residents are required to treat and manage specific number of patients, do research and present their findings at conferences.¹ Residents are then expected to present their dissertation in the final year of training. The dissertation serves as the major assessment to qualify as a specialist. The research work done by the residents is usually standalone projects supervised by experienced academics and specialists and many of such research work have used quantitative methods.

In dentistry, the use of qualitative research design and method is relatively uncommon when compared to quantitative research.²⁻⁴ Qualitative research is said to be a naturalistic, interpretative approach concerned with understanding the meanings which people attach to actions, decisions, beliefs, values and the like within their social world. It deals with understanding the process that respondents use to make sense of and interpret the world around them.² Qualitative research is particularly useful when a topic is poorly understood or little researched, providing explanation of reasons and associations, evaluating effectiveness and aiding the development of theories or strategies.^{5,6} The importance of qualitative research in health care and services have been acknowledged as adding new and important knowledge in the area of health research.^{6,7} Qualitative research is a tool that can be used to understand people's complexity in relation to health and illness as it aims at the core not just the surface. Further, qualitative research have been used to study psychological and social perspectives in health care, with the focus of such studies on issues including beliefs, information, decision making and quality of life as it relates to care.^{8,9}

Therefore qualitative research design in dentistry may be useful to investigate and understand patient's perspective towards care. Qualitative research design is also advantageous in investigating reasons why patients fail to attend appointments, fail to comply with instructions, and it can be utilised to report health beliefs and attitude of patients. Further the use of qualitative research in dentistry may highlight grey areas concerning patients care and may throw more light into why patients differ in their attitude towards treatment.

The purpose of this study is to survey the opinion of resident doctors in Nigeria who are training to become specialists on the use of qualitative approach to research design and methods in Dentistry. This is a pilot study; the aim is to conduct a more comprehensive study in future.

Materials and methods

The study design was a cross sectional survey, semi structured questionnaires were sent by electronic mail to residents training to become orthodontic specialists in 3 major training centres in Nigeria. The training centres were located in the south west region of Nigeria which had been training orthodontic residents for some time now. Centre A had been training orthodontic residents for 20 years, while Centre B and C had a history of training of 10 and 8 years respectively. The purpose of the questionnaires was to elicit useful information on the research experience of resident doctors training to become specialists. The questionnaire also aimed to survey their opinions about qualitative research design and methods in dentistry. Respondents were asked to fill in the questionnaires by ticking the most appropriate answer to the questions. Data collected was analysed manually, frequencies were generated and descriptive variables are presented in both Figure and tabular form.

Results

Sixteen out of 20 residents responded (80%). Those who responded were further categorised as either registrars or senior registrars. Registrars were residents who were less than 2 years into the training program and senior registrars were residents who were more than 2 years into the training program. Results are shown in Figure and tabular form. Figure 1 and 2 shows the descriptive statistics of the residents. Table 1 and 2 show responses from residents in Centre A, B & C. Responses from the three centres are similar. All the residents (100%)

were familiar with the term ‘qualitative research’, but none of them had ever conducted a qualitative study and none were familiar with the main approaches to qualitative studies. All the residents (100%) were familiar with quantitative study design and claimed it was easier to understand than qualitative research design. Eight residents (50%) categorised qualitative research design as social sciences, 4 (25%) residents categorised qualitative research as sciences, while 4 (25%) were not sure. Ten of the residents (87.5%) would conduct qualitative studies if they were further informed and have better understanding.

Table 1 Experience with research methods

Variables		Centre A	Centre B	Centre C	Total
Have done quantitative research before	Yes	7	5	4	16 (100%)
	No	-	-	-	0
Have done mixed research before methods	Yes	7	5	4	16 (100%)
	No	-	-	-	0
Have done qualitative research before	Yes	-	-	1	0 (0%)
	No	8	5	2	16 (100%)
Familiar with steps in quantitative research design and methods	Yes	8	5	3	16 (100%)
	No	-	-	-	0 (0%)
Familiar with steps in quantitative research design and methods	Yes	-	-	-	0
	No	7	5	4	16 (100%)

Table 2 Experience with qualitative research design and methods

Variables		Centre A	Centre B	Centre C	Total
Qualitative research is good for determining subjective experiences	Yes	-	-	-	0 (0%)
	No	7	5	4	16 (100%)
Method of Data collection and analysis in qualitative research are similar to that of quantitative research	Yes	7	5	4	16 (100%)
	No	-	-	-	0 (0%)
Qualitative studies are more in depth than quantitative studies	Yes	-	-	-	0 (0%)
	No	7	5	4	16 (100%)
Results in qualitative studies can be generalised	Yes	-	-	-	0 (0%)
	No	7	5	4	16 (100%)
How would you categorise qualitative studies	Soc. Sci Yes	4	2	2	8 (50%)
	Sciences Yes	2	2	-	4 (25%)
	Not Sure Yes	1	1	2	4 (25%)
If you were better informed would you mind conducting qualitative studies?	Yes	4	2	2	8 (50%)
	No	3	3	2	8 (50%)

Discussion

This was a pilot study that aimed at surveying the opinions of residents who are training to become specialists. None of the residents have conducted qualitative research before and none was familiar with the qualitative research design and methods. The benefits of qualitative research in general are numerous and its use in health sciences has been recognised.^{6,7} It is viewed as a useful tool that can promote understanding of people’s complexities including subjective experiences in relation to health and illness.⁸ Qualitative research may also help to explain health related decisions and support in a social setting.⁹ Qualitative methods offer a set of tools for data collection

such as observation or interviews that are flexible and sensitive to explore the research question.¹⁰ Flexibility in qualitative studies allows for modification of the research process so that the initial topic guide may be modified to accommodate emerging issues during data collection. In addition, sensitivity in qualitative research allows the researcher to take into account both verbal and nonverbal responses of the participants unlike quantitative research where only quantified data is collected. Qualitative research can also aid the development of theories or strategies that are useful in understanding people’s experiences in making health related decisions.¹¹ Furthermore, qualitative research has been used to enhance better understanding

of health services and provision by identifying implementation and intermediate outcomes which may not have been captured using quantitative methods.¹²

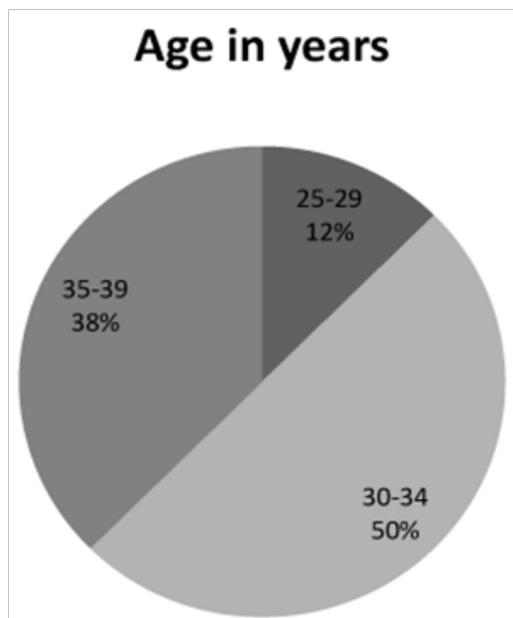


Figure 1 Age distribution of respondents.

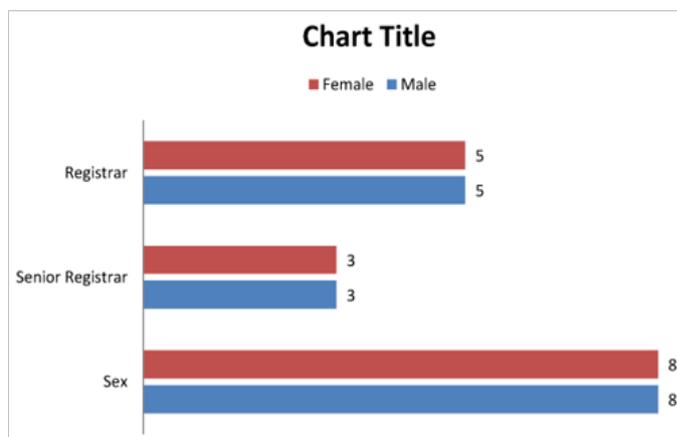


Figure 2 Gender and status of residents.

There are several approaches to conducting qualitative studies that have been described by several authors in the past,¹³⁻¹⁷ although five main approaches to qualitative research have been reported and documented.¹⁸ These are Narrative, Phenomenology, Grounded Theory, Ethnography and Case study. Similarities and differences in the approaches have been documented and are presented in Table 3. However, when conducting qualitative research, there may be a subtle overlap of the five main approaches. This study discusses in brief the five main approaches giving examples where possible of the type of research in dentistry that may be suitable for each approach.

Table 3 Comparison of the five qualitative approaches (Cresswell 2007)

Qualitative Approach	Narrative	Phenomenology	Grounded Theory	Ethnography	Case Study
Focus	Exploration of individual experiences	Understanding the "essence" of an experience	Development of a theory grounded in the data	Interpretation and description of ethnic groups	In depth analysis of a case or cases
Types of Study	Stories of Individuals	Description of the "essence" of a lived experience	A theory that needs to be grounded in the views of participants	Description of ethnic similarities and differences	Giving an in depth understanding of cases
Data Collection	Interviews and documents	Mostly interviews though documents, observations and art may be used	Mostly interviews	Observation and interviews	Multiple techniques such as interviews, observations, documents and artifacts
Data Analysis	Developing themes by using chronology	Analysing data for significant statements, meanings, textual and structural description of the "essence"	Analysing data through coding	Analysing data through description of the themes, culture of the sharing group	Analysing data through description of the case and themes
Presentation of the Data	Presenting a narrative about the stories of an individuals	Description of an "essence" or an experience	Development of a theory illustrated in figure.	Describing how ethnicity groups works	Developing a detailed analysis of one or more case or cases
Challenges	Extensive information is needed with careful identification of the stories that best capture individuals' experiences.	All the participants must have experienced the phenomenon in question. It is difficult to analyse individual experiences.	It does not allow for priori assumptions or theories. Difficulties in identifying data saturation	The researcher must be grounded in cultural anthropology and understanding of socio-cultural system.	Defining the boundaries of a case and its constraint in terms of time and event

A Narrative study¹³ focuses on stories told by an individual or several individuals. It is suitable for research that needs to tell stories of individual experiences theorizing about their lives. A narrative approach may help identify patterns of meaning of events and processes in the form of a summary. In the field of dentistry, data collection from patients by means of interview is likely to take a form of narrative in which they tell the story of their complaints, discomfort and pain and dental care experiences.

Phenomenological studies seek to understand and describe the “essence” of a lived experience of a concept or phenomenon and it is suitable for studies that aim to study several individuals who have shared the same experiences.¹⁴ A Phenomenological approach uses philosophical and phenomenology assumptions, making significant statements and seeking to explain statements; it is an exhaustive description of a phenomenon. The use of a phenomenological approach may help understand the lived experiences of patients with oral cancers and other disorders. It may also help understand why patients are likely to live with certain dental diseases rather than seek treatment.

The ethnography approach allows the researcher to describe and interpret the shared and learned pattern of values, behaviours, beliefs and language of a culture-sharing group.¹⁵ Ethnographic studies involve participant observation in which the researcher is involved in observation and sometimes in interviews of day- to- day lives of a large ethnic group of usually more than twenty individuals. Using an Ethnographic approach in dental research may be useful in public dental health where the researcher seeks to interpret shared pattern and values of a large ethnic group for certain dental disease patterns such as caries or periodontitis.

Case study approach, on the other hand, seeks to explore an issue through one or more cases within a setting.¹⁶ The focus is to develop an in-depth description and analysis of a case or multiple cases. In the field of dentistry, patient care services may be described as a case, and there will be a need to examine the perspectives of all involved and the context of the service. However, the focus may not be on the organization of a specific dental service but on understanding of care and needs associated with patients.

Grounded Theory (GT) seeks to develop or discover a theory that is inducted from the data.¹⁷ It is suitable for studies where participants have all experienced the same process, so that the development of a theory can help explain the practice or provide a framework for further studies. GT approach is suitable for studies in dentistry that has to do with experience of patients with dental care; the aim of developing a theory is so that a frame work inducted in the data collected may be used to explain the concept being studied as perceived by the patients.

In conclusion, the five main approaches to conducting qualitative studies have been discussed the aim is to enhance better understanding of qualitative research methods and design that may be useful for researchers in the field of dentistry.

Acknowledgments

None.

Conflict of interest

The author declares that there is no conflict of interest.

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