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Thinking about research methodological alternatives: use of qualitative and mixed methods in odontological practice

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Odontology, as a discipline that seeks the well-being of people, has undergone important changes not only in its conception as a technical and biological practice, but also in its clinical, social, administrative and research work. It is precisely in the latter that the odontological practice has an interesting commitment to the production of knowledge (basic research) and applied research to solve problems in society or in the productive sector (for example, design of devices, software, or mobile applications).

As a matter of fact, it is important to discuss the importance of research in the odontological field as an element that allows conceptual, epistemological and methodological strategies for the solution of scientific problems in areas such as basic sciences (microbiology, immunology, pharmacology), in the clinical area (biomaterials, effectiveness of treatments, clinical guidelines), or in the socio-humanistic field (epidemiology, public health, studies on the magnitude and severity of oral diseases and their related factors). Traditionally, research has focused on quantitative studies from the empirical-analytical and positivist approaches. However, the same research dynamic, the need to address complex social issues, and new trends in research training have led to the development of alternative research approaches, such as qualitative and mixed research (1-4). This has involved many processes of epistemological construction and deconstruction in order to understand the phenomena within the study of odontology.

In order to understand the importance of both research alternatives, a simple search was carried out in PubMed, using the following search string in order

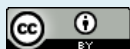
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to observe qualitative studies published in the odontological field: ((((((“Oral Health”[MeSH]) OR (Oral Health[Title/Abstract])) OR (“Dental Caries”[MeSH])) OR (Dental Caries[Title/Abstract])) OR (“Periodontal Diseases”[MeSH])) OR (Periodontal Diseases[Title/Abstract])) AND ((((((“Qualitative Research”[MeSH]) OR (Qualitative Research[Title/Abstract])) OR (Qualitative Methods[Title/Abstract])) OR (Qualitative Study[Title/Abstract])). This search yielded 930 studies of qualitative methodology, out of which 421 were published in the last 5 years (45.3%) and 106 (11.4%) in the last year. To complement the specific search for mixed research, the following search string was used in the same database: ((((((“Oral Health”[MeSH]) OR (Oral Health[Title/Abstract])) OR (“Dental Caries”[MeSH])) OR (Dental Caries[Title/Abstract])) OR (“Periodontal Diseases”[MeSH])) OR (Periodontal Diseases[Title/Abstract])) AND (((((Mixed Study[Title/Abstract]) OR (Mixed Methods[Title/Abstract])) OR (Mixed Research[Title/Abstract])). This search yielded 203 studies with mixed methodology, out of which 135 were published in the last 5 years (66.5%) and 36 (17.7%) in the last year. These results lead us to conclude that the number of odontological studies using these methodologies has been increasing over the last five years, which indicates a greater sensitivity of research towards this type of paradigms.

Qualitative research and its impact on odontological education should therefore be analyzed. Qualitative research allows addressing questions and issues related to topics such as perceptions of quality of life (QoL) and its relationship to oral health (5), the social representations underlying the oral component of the health-disease process (6), experiences related to dental care and access to health services in specific populations (7), the evaluation of educational programs from a sociocultural perspective (8, 9), and odontologists’ experiences in providing health responses and comprehend patients’ perspectives and needs (10), among other issues. All of this accompanied by different designs and specific methodological routes that allow a concrete response to these approaches. Therefore, it is advisable to delve deeper into ethnographic, grounded theory, phenomenological, narrative, case study, and action research designs (1). Those motivated by these designs can use numerous research techniques, such as participant observation, focus groups, semi-structured or in-depth interviews, life stories, document analysis, or participatory techniques (brainstorming, workshops, role play, among others)

(1, 3). All of them are in accordance with the research objectives and the proposed design.

A concrete example of qualitative research in odontology can be seen in a recently published study, which sought to understand the perceptions on the QoL and its conditioning factors in individuals with non-syndromic cleft lip and palate (NSCLP) from the experience of individuals with this condition, and from their families and healthcare team (11). To this effect, a study was designed with a phenomenological approach with interviews and focus groups according to the main objective. This enabled the identification of individual, social, and contextual factors affecting the QoL of patients with NSCLP, and to highlight the need for multidisciplinary and comprehensive approaches to this population, identifying the health and social needs of these individuals.

Another element to be analyzed in depth as a methodological alternative has to do with mixed studies. Although this type of methodology has several detractors, who consider that combining two epistemological paradigms of science, such as quantitative and qualitative, can be difficult, especially in the field of health services research (12), other authors have proposed being more flexible by using the methodological benefits of each of the qualitative strategies to allow a comprehensive approach to the reality that underlies the research problems (13). Understanding the diversity of concepts, theories and models, and if we add to this a complex research issue, we can opt for the use of these methods. In general terms, sequential designs are proposed (in which one study precedes the other) in order to complement the information, either explanatory (where the quantitative study comes first) or exploratory (where the qualitative study comes first); and convergent or parallel designs (both studies are conducted at the same time and the information is triangulated) (2). Transformative methods have also been mentioned, in which information is collected longitudinally at various points in time (14). In view of the above, researchers who wish to delve deeper into this subject should take into account the scope and limitations of this type of design and review the possible classifications proposed.

Similar to that presented in qualitative studies, it is important to illustrate the convenience of using mixed methods through a research example. A study was carried out with the purpose of analyzing the influence of sociodemographic and labor conditions on the QoL of periodontists in Colombia (15). To this effect, an

explanatory sequential study was conducted, in which a first quantitative phase was carried out by means of surveys on an online platform, with the participation of 187 individuals (60.4% women). This made it possible to establish some factors affecting QoL (measured using a validated instrument such as the WHOQOL-BREF, which assesses physical health, psychological health, social relationships and the environment). These factors include sociodemographic aspects, social support, mental health, socioeconomic and labor aspects. With the information collected in this quantitative phase, and having conducted the corresponding analysis, two focus groups were planned, deepening in those relevant aspects found in the quantitative information. This allowed us to understand how the QoL is permeated by the social context. Additionally, specialization in periodontics has created a change in living conditions and an adaptation to the work environment that allows gaining recognition and QoL. This led to the conclusion that periodontists' QoL is defined in subjective terms (standards) and with the work and social environment. The use of this study with mixed methodology was beneficial in analyzing an element, such as QoL in an integrative way, through different perspectives, such as the statistical and personal-subjective, from the perception of the participants of the study.

Researchers who wish to embark on this journey through qualitative and mixed research should start with a fundamental premise: more important than the method is the problem and the research question. A well-formulated and approached research problem in the field of odontology will contribute to the appropriate selection of methods and strategies best suited to understand the social realities of individuals and their social contexts. For this reason, academia has an important commitment to the education of ideal researchers in this type of methodologies, composed of scholars who are sensitive to and willing to engage in an intersubjective dialogue with epistemology, while understanding the social reality of those directly involved.

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