

# A practical approach to evidence-based dentistry: VIII

## How to appraise an article based on a qualitative study

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### EIGHTH IN A SERIES

In previous articles published in this series, we introduced the general steps to pursue evidence-based clinical practice<sup>1</sup> and how to search for<sup>2</sup> and critically appraise studies about therapy,<sup>3</sup> harm,<sup>4</sup> diagnosis,<sup>5</sup> systematic reviews,<sup>6</sup> and clinical practice guidelines.<sup>7</sup> In this article, we turn to appraising the evidence from a study whose investigators relied on qualitative research.

Qualitative research is an inquiry process that focuses on meaning and interpretation.<sup>8,9</sup> Investigators conducting this type of research aim to explore social or human problems.<sup>8,9</sup> Qualitative researchers often address real-world situations in which complex systems are greater than the sum of their parts.<sup>10</sup> Qualitative researchers not only aim to understand how people think about the world and how they act and behave in it, their study results also can extend beyond patients' personal experiences to explore interactions and processes within organizations or other environments.<sup>11</sup> In the context of

### ABSTRACT

**Background and Overview.** Because of qualitative researchers' abilities to explore social problems and to understand the perspective of patients, qualitative research studies are useful to provide insight about patients' fears, worries, goals, and expectations related to dental care. To benefit fully from such studies, clinicians should be aware of some relevant principles of critical appraisal. In this article, the authors present one approach to critically appraise the evidence from a qualitative research study.

**Practical Implications.** Critical appraisal involves assessing whether the results are credible (the selection of participants, research ethics, data collection, data analysis), what are these results, and how they can be applied in clinical practice. The authors also examined how the results could be applied to patient care in terms of offering theory, understanding the context of clinical practice, and helping clinicians understand social interactions in clinical care.

By applying these principles, clinicians can consider qualitative studies when trying to achieve the best possible results for their own practices.

**Key Words.** Evidence-based dentistry; qualitative research; critical appraisal.

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evidence-based medicine, the results of qualitative research can be particularly important in helping clinicians to understand patients' values and preferences.<sup>12,13</sup>

**BOX 1****Clinical scenario.**

A 48-year-old man who smokes heavily came to your office concerning periodic toothaches. Despite having dental insurance benefits, he had not visited a dentist for the past 5 years as he had no pain until recently. You noticed widespread caries and moderate periodontal disease. You performed scaling and root planing, restored several teeth, and extracted 4 nonrestorable teeth. Next, he asks you to replace the extracted teeth with dental implants because his wife recently had a positive experience with a dental implant. You explain that the cost for implants is not covered by his insurance; however, he says that he is willing to make such an investment because "the implants will last a lifetime." You are concerned about making a clinical judgment in this case and are not sure if your patient is a good candidate for dental implants given his smoking and oral hygiene status, as well as his unrealistic expectation for the longevity of the implants. Evidence from the literature may provide insights that would bring further understanding of this patient's expectation and preferences. You therefore seek a relevant study to consult.

**WHEN IS QUALITATIVE RESEARCH RELEVANT?**

There are numerous reasons for conducting a qualitative study. Qualitative research is relevant when little is known about a topic or to address questions that cannot be answered by quantitative methods. Qualitative research results also can be relevant when a clinician wants to study how potential barriers to care are perceived, to describe a decision-making process, or to examine why interventions work or do not work. Qualitative research results can be influential when examining the kinds of impact (both anticipated and unanticipated) that might be perceived from using different intervention strategies.<sup>14</sup> Qualitative researchers seek in-depth understandings of "what is going on in the world" and also can challenge assumptions about that world and the people who live and interact in it.<sup>15</sup> Investigators of qualitative research studies that are relevant for clinicians address a social phenomenon and seek a theoretical or conceptual understanding of a particular problem.<sup>16</sup> Qualitative researchers in oral health have conducted studies that have addressed issues such as the effect of having natural teeth as a person gets older, dentists' perceptions and experiences of treating people who receive social assistance, experiences of tooth loss and replacement, and oral health preferences in patients with diabetes.<sup>17-20</sup>

**WHERE TO FIND QUALITATIVE STUDIES**

It can be difficult to identify qualitative studies because their key words often do not map easily to medical subject headings (MeSH) terms, which are used for indexing articles in MEDLINE, and these types of studies are not always published in journals that are indexed in commonly used databases. However, in 2003, the National Library of Medicine introduced "qualitative research" as a MeSH term. To make a search more

sensitive, a clinician using PubMed can apply filters such as "qualitative" or "interview" in the title or abstract fields or the term "experience" in the text word field.

**BOX 2****The search for a qualitative study.**

You are interested in finding a qualitative study that explores patients' values and preferences regarding dental implants. You start with PubMed and enter the search terms "dental implants" and "qualitative research." The search identifies over 100 articles. As you look through the titles and abstracts, you identify and retrieve an article that appears to be particularly relevant.

**BOX 3****The study you find.**

The study you find was written by Grey and colleagues,<sup>21</sup> and the title is "A Qualitative Study of Patients' Motivations and Expectations for Dental Implants." You read the abstract of this research study, which indicates that patients believe that dental implants are just like natural teeth; such a belief, you note, could be problematic. You decide that reading the article may provide further insight into your patient's perspective and his initial decision to request implants.

**CRITICALLY APPRAISING QUALITATIVE RESEARCH TO INFORM CLINICAL DECISIONS**

There are many approaches (also referred to as methodologies or traditions) to conducting qualitative research, including grounded theory, phenomenology, and ethnography. These approaches, in addition to numerous theoretical perspectives, often shape the research question, data collection, data analysis, and choices for promoting rigor in the study. Unlike quantitative research, there is no hierarchy among the approaches in qualitative research; no approach is more likely to get to the "truth" than another.

Over 100 checklists are available to critically appraise a qualitative study.<sup>22</sup> Many of these checklists are procedural in nature, focusing on the methods alone and diverting attention away from the analytic content of the work and the substantive findings.<sup>23</sup> In addition, many checklists consider all qualitative research to be the same, as they fail to acknowledge differences between approaches or variants within each of the approaches.<sup>24</sup> For the purposes of this article, we relied on Giacomini and Cook's<sup>16</sup> criteria because these authors specifically developed criteria for use in evidence-based practice. According to these criteria, the process of using the results of a qualitative research study to inform clinical decisions involves assessing the credibility, the results, and the applicability of those results. Below, we describe each of these 3 steps.

**ABBREVIATION KEY.** MeSH: Medical subject headings.

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