Community Dentistry and Oral Epidemiology

WILEY

COMMUNITY DENTISTRY AND ORAL EPIDEMIOLOGY

ORIGINAL ARTICLE OPEN ACCESS

Barriers to and Facilitators for the Use of Research Evidence in Oral Health Policies and Guidelines: An International Qualitative Study

Francisca Verdugo-Paiva[1,2,3] | Matthias Wallach[4] | Duniel Ortuño[5] | Michael Glick[6] | Alonso Carrasco-Labra[6]

[1]Department of Paediatrics, Obstetrics & Gynaecology and Preventive Medicine and Public Health, Universitat Autònoma de Barcelona, Bellaterra (Cerdanyola del Vallès), Barcelona, Spain | [2]Orofacial Pain & TMD Program, Facultad de Odontología, Universidad Andres Bello, Santiago, Chile | [3]Epistemonikos Foundation - Mariano Sanchez Fontecilla 368, Santiago, Chile | [4]Departamento de Morfología, Facultad de Medicina, Universidad del Desarrollo, Santiago, Chile | [5]Facultad de Odontología, Universidad de los Andes, Santiago, Chile | [6]Center for Integrative Global Oral Health, School of Dental Medicine, University of Pennsylvania, Philadelphia, Pennsylvania, USA

Correspondence: Francisca Verdugo-Paiva (mariafrancisca.verdugo@autonoma.cat)

Received: 17 February 2025 | **Revised:** 19 June 2025 | **Accepted:** 9 July 2025

Funding: This work was supported by a scholarship (Doctorado en el Extranjero Becas Chile Convocatoria 2023) from the Chilean National Agency of Research and Development (ANID).

Keywords: clinical practice guidelines | evidence-based dentistry | evidence-informed guidelines | oral health policies | qualitative research

ABSTRACT

Objectives: To explore perceived barriers to and facilitators for using research evidence to inform guidelines and policies in oral health (OH) reported by guideline developers and policymakers.

Methods: An abductive reasoning approach utilising in-depth semi-structured interviews was used. Interviewed individuals had a high-level understanding of the processes involved in developing OH evidence-informed guidelines and policy documents, including methodological steps and workflow. Purposive sampling was used to select participants with experience generating national or regional documents from different continents. Interviews were recorded and transcribed verbatim. After validation, data were analysed thematically using NVivo software. Transcriptions were coded and collated into themes and subthemes, with coding saturation achieved after coding all transcripts and confirming that no new codes emerged.

Results: Participants worked in seven organisations across Europe, North America, and South America, including professional associations, scientific societies, governmental, and global organisations. Participants' perceptions were classified into seven main themes: research evidence (availability of evidence synthesis, direct and local evidence, certainty of the evidence and emerging research evidence), guidelines and policy documents (accessibility to guidelines, documents terminology, question scope and methodological rigour), organisational and system-level (costs, availability and accessibility to needed expertise, workload, health system characteristics, circumstances and events, and pressures), contact and collaboration (relationship with non-governmental organisations, research centers, governmental institutions and users), guidelines and policies users (evidence-informed decision-making (EIDM) expertise, attitudes toward EIDM, inclusion of patients' perspectives), guideline developers and policymakers (attitudes toward EIDM, autonomy, responsibility and expectations, and self-Interested behaviour), and others (OH in the context of overall health and use of technology). Several reported barriers were specific to the OH field, including dental professionals' resistance to changing practice (acquiring new dental materials), absence of patient advocacy organisations in OH, an overemphasis on personalised treatment planning, overvaluation of surrogated outcomes, challenges with dental device regulations, limitations in incorporating economic evaluation for decision-making at a population level, disconnect between

evidence-based care and coverage, low priority given to OH by authorities and the public, and lack of communication between dental and non-dental professionals.

Conclusions: Understanding particular challenges hindering the integration of research evidence into guideline and policy document development processes is critical to improving their quality. Similarly, awareness of facilitators can aid in formulating strategies to enhance this process and counter barriers.

Trial Registration: Open Science Framework (DOI: 10.17605/OSF.IO/W4KG7)

1 | Introduction

To support clinical and public health practice, various evidence-informed products (also known as knowledge transfer deliverables) have emerged as an efficient and accessible way to provide key interest-holders—such as clinicians, patients, policy-makers, funders, and regulators—with reliable, relevant, unbiased information for decision-making [1]. By transferring current knowledge—whether derived from research evidence, health services data, or experience—these products assist in guiding decisions across diverse contexts. Clinical practice guidelines (CPGs) help apply research to clinical decisions, public health policies guide population-level interventions, and health technology assessments (HTAs) support coverage and reimbursement decisions [1].

In the oral health (OH) field, these evidence-informed products are produced by professional associations, scientific societies, and governmental organisations. These documents address a wide range of topics, including recommendations to guide individual clinical care choices [2] to public health interventions [3].

Previous research has consistently highlighted significant methodological deficiencies in OH evidence-informed guidelines and policies. This concern was reported over 15 years ago [4, 5], but notable improvements have yet to be made. Recent systematic evaluations in specific OH areas, such as the management of traumatic dental injuries [6], impacted maxillary central incisors [7], and the provision of OH services during the COVID-19 pandemic [8], indicate that only a small proportion of OH guidelines are suitable for use by clinicians and policymakers. Additionally, a systematic survey revealed that most organisations developing evidence-informed guidelines in OH do not follow a structured and standardised process for formulating clinical and public health recommendations. Also, the methods employed are often inconsistent, informal, and deviate from international standards despite claims to the contrary [9]. Even though the number of evidence-informed guidelines and policy documents produced in OH has risen exponentially, the current situation indicates that there is a need for substantial improvement in their quality and trustworthiness [9].

Producing high-quality guidelines and policies requires a multi-step process involving various methodological standards. Achieving consensus among guidelines panellists (e.g., clinicians, researchers, content experts, methodologists, patient partners, and payers) and policymakers with different expertise and perspectives adds to this complexity. Furthermore, all guidelines projects frequently face obstacles related to interest-holders' involvement, roles and participation of panel members, collaboration, deadlines, and resource allocation. Each phase of the guideline development process—creation, dissemination, implementation, monitoring, and evaluation—entails complex processes influenced by numerous factors. While much research in recent years has focused on the implementation stage [10], barriers and facilitators for the remaining stages have been less extensively explored.

Even though some theories have been proposed to explain factors influencing the use of evidence to inform OH guidelines and suggest strategies to overcome these barriers, empirical evidence to support them is lacking [11, 12]. Another body of evidence has investigated barriers to applying evidence-based dentistry principles, with a shortage of time and financial constraints being the challenges most frequently reported [13]. A recent scoping review explored barriers to and facilitators for creating, disseminating, implementing, monitoring, and evaluating OH policies in the World Health Organisation (WHO) African region. The most frequently identified barriers to policy creation were related to organisational and resource factors [14]. However, no studies have specifically addressed aspects that influence the use of research evidence by guideline developers and policymakers in the OH field. Furthermore, systematic reviews summarising the facilitators and barriers to using research evidence by health policymakers did not include any primary studies on OH context [15, 16].

Qualitative studies focus on exploring new hypotheses or theories based on a deep understanding of the meaning of a specific phenomenon by using different approaches for collecting data and analysing them to address questions related to comprehending perceptions and meanings (e.g., 'what,' 'why,' and 'how') [17–19]. These attributes are essential for expanding the current knowledge on the specific factors impacting the inclusion of evidence in the development of evidence-informed products in the OH context.

The aim of this qualitative study was to explore perceived barriers to and facilitators for using research evidence to inform guidelines and policies in OH as reported by guideline developers and policymakers.

1.1 | Study Design

An exploratory qualitative study based on semi-structured interviews was performed. Abductive reasoning was employed, with pre-existing theories and the data emerging from the interviews being used to address the research question [18]. The protocol of this study was previously published [20]. This

manuscript complies with the consolidated criteria for reporting qualitative research checklist (COREQ) [21] (Appendix 1). More details about the methods used to select participants, collect, and analyse data are available in the supplementary file (Appendix 2).

1.2 | Participants

Individuals with a practical understanding of developing guidelines, guidance, policy documents, or other evidence-informed products in OH, including methodological steps and workflow, were interviewed. Purposive sampling was used to select participants with experience generating national or regional documents from different continents. All participants were informed about the voluntary basis of the study.

1.3 | Data Collection

In-depth semi-structured interviews were used for this study to ensure interview consistency and flexibility, optimise the natural flow of conversation, and stimulate discussion about participants' views regarding needs, opportunities, and challenges in developing guidelines and policies.

The interview guide included five domains (Appendix 2): (1) prioritisation of the topic and the need for a guideline, (2) evidence search and selection methods, (3) evidence synthesis to inform guidelines, (4) guideline development and dissemination, and (5) guideline update.

At the beginning of each interview, general characteristics of the participants' organisations and guideline and policy document development process were collected. All semi-structured interviews were conducted via Zoom software in English or Spanish. Interviews were recorded and transcribed verbatim.

1.4 | Data Analysis

After completing the transcription of the interviews, the thematic analysis was conducted, including (1) transcription checking with recordings for accuracy, (2) open coding by reading the transcripts and assigning codes line by line to identify all potential useful data, (3) sorting the codes and collating them into potential themes, (4) refining the themes and breaking them into subthemes, (5) defining the themes and subthemes from the final code structure, and (6) writing up the final analysis and producing a report [22]. One researcher (FV-P) coded and drafted the framework and proposed themes. A second researcher (DO) double-checked selected codes and reviewed the themes. A third author (AC-L) reviewed the framework and themes. A final structure was obtained after discussing the development of themes and subthemes, and the interpretation given to the data findings. All interviews were coded at least twice, once with the initial code structure and once with the finalised list. Preliminary data analysis began after the first interview and continued alongside data collection to evaluate whether additional participants were needed to achieve data saturation. Coding saturation was reached after coding all the transcripts and checking that no new codes emerged. NVivo V.14 software was used for data management and analysis [23].

2 | Results

Nine semi-structured interviews with OH guideline developers and policymakers were conducted between June 2022 and August 2024. During data collection, it was determined that no additional interviews were necessary, as preliminary analysis—later confirmed by the final analysis—indicated that no new codes were emerging from the data. This indicated that all relevant themes had been identified and that data saturation had been reached. Through discussion and analysis of the data, the participants' perception of needs, opportunities, and current challenges in developing rigorous, continuously updated, and trustworthy evidence-informed guidelines and policies in OH were interpreted.

2.1 | Participants and Their Organisations

Five females and four males working in seven different organisations developing OH evidence-informed guidelines or policies participated in the study. Interviewees' roles varied across various levels of management within the organisations. Still, they all were well informed and had participated in guidelines processes, including methodological steps and workflow. The interviewees' professional profiles included guideline developer leaders, chief dental officers, OH technical officers, and OH policy directors (Table 1).

Participants worked in various types of organisations across Europe, North America, and South America. These included governmental organisations ($n=4$), non-governmental organisations (NGOs) such as professional associations and scientific societies ($n=2$), and an international organisation ($n=1$).

The interviewees' institutions employed diverse methodologies and processes to produce evidence-informed documents. All had over 5 years of experience in guideline and policy document development, with the great majority ($n=6$) producing documents aimed at national-level implementation. Regarding conflicts of interest (COI), all interviewees indicated that members of the working group involved in document development were required to disclose any potential COI. However, two of the organisations ($n=2$) reported no formal COI management policy to safeguard guideline integrity. Funding sources for these organisations included government agencies, medical associations, scientific societies, or a combination of these sources ($n=6$).

Participants from three organisations reported the following in-house methodologies outlined in their handbooks, while two used methodologies or evaluation resources, such as GRADE or AGREE II [24, 25]. Additionally, one organisation followed a national organisation's handbook, and another used guidelines from a global organisation, such as the WHO.

Through discussion and data analysis, participants' perceptions were interpreted and organised into seven themes and 28

TABLE 1 | General characteristics of the study sample.

Characteristics of interviewees ($n=9$)	n (%)
Gender	
Female	5 (55.6)
Male	4 (44.4)
General characteristics of organisations ($n=7$)	n (%)
Organisation type	
Governmental organisation (MoH)	4 (57.1)
Non-governmental organisations (scientific society or professional association)	2 (28.6)
Global organisation	1 (14.3)
Region*	
Europe	2 (33.3)
North America	2 (33.3)
South America	2 (33.3)
Implementation level	
National	6 (85.7)
International	1 (14.3)
Experience developing guidelines or policy documents	
10 years or more	6 (85.7)
3–6 years	1 (14.3)
Funding source	
Government	3 (42.8)
Professional associations or scientific societies	2 (28.6)
Multiple funding without industry	1 (14.3)
Not reported	1 (14.3)
COI policy management	
Yes	5 (71.4)
Not reported	2 (28.6)
Use of a handbook	
In-house handbook	3 (42.8)
Guideline development methodology (e.g., GRADE)	2 (28.6)
National organisation handbook (e.g., MoH)	1 (14.3)
Global organisation handbook (e.g., WHO)	1 (14.3)

Abbreviations: COI, Conflict of interest; GRADE, Grading of Recommendations, Assessment, Development, and Evaluation; MoH, Ministry of Health; WHO, World Health Organisation.
*This category does not include one global organisation.

subthemes. The final structure and definition of the themes are presented in Table 2, and a thematic map displaying themes, subthemes, and specific barriers and facilitators is shown in Figures 1 and 2. Illustrative quotes to support our results are shown in Table S3.

2.2 | Theme A. Research Evidence

The availability and quality of current OH research evidence were widely reported as two critical influences on its use in guideline and policy document development. Several participants expressed concerns about the lack of relevant and reliable evidence to inform these documents. Despite the high volume of OH research articles, only a small portion of them were reportedly of high quality or pertinent to address relevant clinical or policy questions.

In terms of evidence synthesis available, participants pointed out the importance of having updated and high-quality evidence syntheses, particularly systematic reviews. These products are particularly valuable in low- and middle-income settings, where conducting a new review or guideline may not be feasible. One interviewee highlighted that contradictory findings among OH systematic reviews are common, making it challenging for users to determine the degree of agreement and differences among them.

The overwhelming number of new articles published daily creates the perception that keeping guidelines up-to-date is unattainable. This constant risk of being misinformed or outdated has negative implications for patient care and may threaten clinicians' guideline recommendations' credibility, according to reports. The absence of local research evidence was also noted as a significant barrier to adapting recommendations from other organisations to the local context (Appendix 3, A1–A5).

2.3 | Theme B. Guideline and Policy Document Attributes

Participants expressed a range of concerns related to the characteristics of guidelines and policy documents. One major challenge was the difficulty guideline developers faced in identifying and accessing relevant guidelines produced by other organisations, which are scattered across various websites, databases, and repositories. Another concern was the use of the term "guideline" in the OH field, with considerable inconsistency in the terminology used by the different organisations to describe the documents produced.

Perspectives on the methodological rigour of developing guidelines and policy document development varied widely. Most interviewees felt that adhering to a transparent and objective process, such as the GRADE approach [24], positively impacted their organisations and the quality of the documents they produced. However, they also acknowledged the inherent challenges of this process. Several participants described guideline development as 'cumbersome' 'strict' or 'slow' Additional barriers included panel members' unfamiliarity with the process and the necessity of narrowing the scope of documents to enhance their feasibility (Appendix 3, B1–B4).

2.4 | Theme C. Organisational- and System-Level

Key challenges related to organisational characteristics included costs, workload, and availability, as well as accessibility

TABLE 2 | Themes and subthemes of barriers to and facilitators for using research evidence to inform guidelines and policies in OH.

A) *Research evidence*: Factors related to a particular aspect or attribute of research evidence. Research evidence refers to data that have been collected and analysed using explicit methods. This includes findings from a single study to an evidence synthesis such as a systematic review
1. Availability of evidence synthesis 2. Availability of direct evidence 3. Certainty (quality) of the evidence 4. Emerging research evidence 5. Availability of local evidence
B) *Guideline and policy document attributes*: Factors related to a particular aspect or attribute of evidence-informed guidelines and policies. Guideline refers to any document or information product containing actionable statements recommending or suggesting a particular course of action for clinical or public health practice
1. Accessibility to guidelines and policy documents 2. Documents terminology 3. Question scope 4. Methodological rigour
C) *Organisational- and system-level*: Factors related to a particular aspect or attribute of healthcare organisations that develop guidelines and policies and the context in which they are embedded
1. Costs 2. Availability and accessibility to needed expertise 3. Workload 4. Health system characteristics 5. Circumstances and events 6. Pressures on guidelines and policies
D) *Contact and collaboration*: Factors related to connections and relationships between stakeholder groups, guidelines developers, and policymakers
1. Relationship with non-governmental organisations 2. Relationship with research centers 3. Relationship with governmental institutions 4. Relationship with users
E) *Guideline and policy users*: Factors related to a particular aspect or attribute of the target audiences of evidence-informed guidelines and policies. This includes clinicians, patients, healthcare managers, administrators, and other groups that take considerable interest in the recommendations contained in these documents or products
1. Evidence-informed decision-making expertise 2. Attitudes toward evidence-informed decision-making (clinicians) 3. Inclusion of patients' perspectives
F) *Guideline developers and policymakers*: Factors related to a particular aspect or attribute of the group of people involved directly in the development of evidence-informed guidelines and policies
1. Attitudes toward evidence-informed decision-making 2. Decision-making autonomy 3. Responsibility and expectations 4. Self-Interested behaviour
G) Others
1. Oral health in the context of overall health 2. Use of technology

to methodologists and technical expertise. Almost all declared that the guideline and policy development process is resource-intensive; many organisations lack the capacity to meet the demands due to heavy workloads or limited team size.

Regarding system-level topics, participants mentioned barriers related to health system characteristics, circumstances and events, as well as pressures on guidelines and policies. One participant emphasised that, for regulatory purposes, most dental products—including materials and equipment—are classified as "Medical Devices." This classification poses challenges in assessing the safety and performance of these products, limiting the incentives to conduct high-quality primary studies to inform the effect of new interventions.

FIGURE 1 | Barriers to the use of research evidence in oral health guidelines and policies. CPG, clinical practice guidelines; D-M, decision-making; EB-care, evidence-based care; EIDM, evidence-informed decision-making; ES, evidence synthesis; IO, international organizations; NDP, non-dental professionals; OH, oral health; PVP, patient values and preferences.

Additionally, two participants noted that the lack of integration of OH services into primary healthcare models significantly impacts the development of guidelines and policy documents. OH is typically excluded from health coverage, forcing patients to pay out of pocket for care. Guideline developers emphasised the complexity of making recommendations incorporating economic evidence into OH guidelines, as population-level decision-making is often not feasible. Participants also pointed out the lack of connection between dental care coverage and evidence-informed standards of practice. One interviewee noted that creating, disseminating, and implementing evidence-informed guidelines is easier when there is a clear connection between guidelines and clinicians' actions in clinical practice, for example, when guidelines are legally binding.

Three participants noted that certain circumstances and events can facilitate the development of OH guidelines and policy documents when there is an emerging need or decision-making gap that must be addressed as mandated by policymakers or ministries of health. These emerging circumstances offer an opportunity to reconsider resource allocation and agenda-setting regarding guideline development. With the increased awareness of OH recently, one participant felt that it would be crucial to leverage these emerging situations to ensure that OH guidelines are prioritised and show value to interest-holders.

Economic, social, and political pressures were seen as factors impacting the development of guidelines and policy documents. Interviewees noted that these pressures often hinder

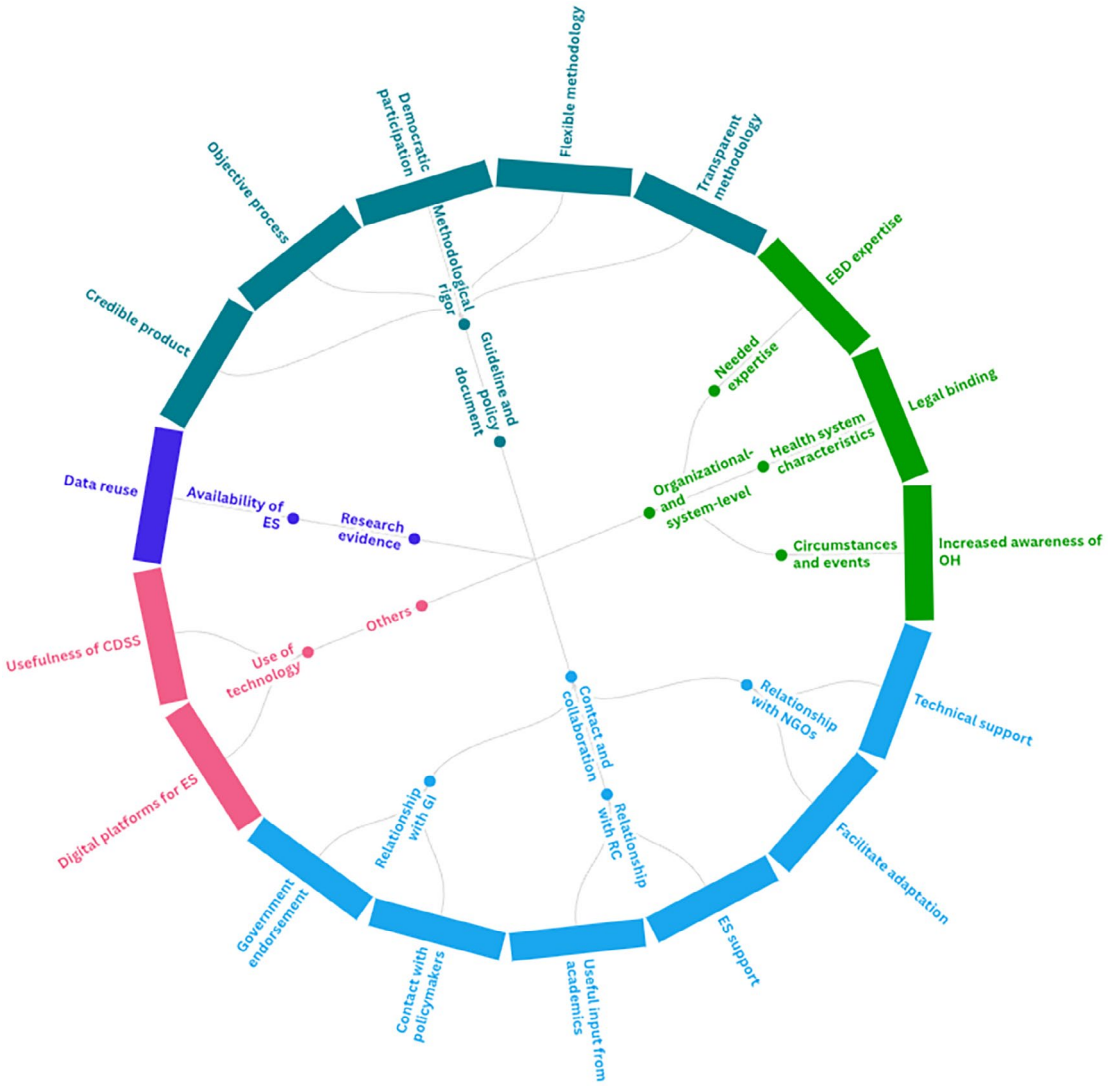

FIGURE 2 | Facilitators for the use of research evidence in oral health guidelines and policies. CDSS, Clinical Decision Support Systems; EBD, Evidence-based Dentistry; ES, Evidence Synthesis; GI, Governmental institutions; NGOs, Non-governmental Organizations; OH, Oral Health; RC, Research Centers.

the creation of OH documents, as OH typically receives lower priority from both authorities and the public compared to other health problems (Appendix 3, C1–C6).

2.5 | Theme D. Contact and Collaboration

Connections and relationships among interest-holders, evidence-informed guideline developers, and policymakers were identified as key factors influencing the development process of guidelines and policies. Perceptions regarding relationships with Nongovernmental organisations (NGOs) were mixed. While international NGOs were seen as beneficial in providing technical assistance, their agendas may not align with country-specific needs, hindering their processes and priorities. Collaborations with scientific societies as well as professional associations were viewed as enablers for the adoption of OH guidelines and policy documents, particularly when these partnerships occur between countries with varying income levels.

Most participants noted that relationships with users of guidelines and policy documents are essential but yet often overlooked. They acknowledged that engaging guidelines and policy users in the implementation phase is challenging and that improvements in this area are needed. Otherwise, as one participant put it, "It's just paper on the shelf" (P08). Three participants underscored the importance of fostering relationships with research centers and universities, noting that these partnerships are crucial for supporting evidence synthesis and broadening the scope of OH guidelines (Appendix 3, D1–D4).

2.6 | Theme E. Guideline and Policy Users

Clinicians' expertise and attitudes toward evidence-informed decision-making (EIDM) were widely recognised as crucial elements influencing the creation and use of guidelines and policy documents in OH. A lack of training and skills in evidence-based dentistry hinders dental professionals from reading, understanding, and applying clinical guidelines in their practice. Most

importantly, interviewees emphasised that dentists are often unreceptive to clinical guidelines because they "*feel attacked in their freedom*" (P09). There is a perception that there is no need to develop guidelines in OH, since each clinical decision should be based on an individualised evaluation of the clinical scenario, making it impossible to standardise any aspect of dental clinical practice. Participants also noted that dentists often resist changing their practices based on the latest evidence. However, they are more likely to make changes if the new recommendations come from a well-known clinician (opinion leader). One factor influencing their willingness to adopt new practices is the cost associated with acquiring new dental materials, which dentists typically have to cover themselves.

Two interviewees acknowledged that including the patient's perspective in the guideline development process is a significant issue. The main obstacles reported were a lack of research evidence on this topic, the absence of organised groups representing patients and caregivers with dental disorders, and a tendency toward clinician paternalism, where dentists assume they know what is best for patients without considering the patients' values or consulting with them (Appendix 3, E1–E3).

2.7 | Theme F. Guideline Developers and Policymakers

Key challenges related to the characteristics of guideline developers and policymakers included their attitudes toward evidence-informed decision-making, autonomy, self-interested behaviour, and their responsibilities and expectations.

Three participants expressed concern that guideline developers and policymakers often lack full decision-making autonomy. In some cases, recommendations must align with international or regional agencies, even when a different, context-specific approach may be more appropriate from a country's perspective. In other instances, guideline developers face pressure to include certain interest-holders in panel meetings, knowing these groups might use the opportunity to promote their agendas rather than those of the patient population or the health system. One policymaker highlighted the high expectations surrounding these documents, stating that "developing a guideline comes with immense responsibility" (P06). Guideline developers and policymakers often receive significant pressure to create documents that will have a meaningful impact on clinical practice and public health decisions while balancing interest-holders' pressures and competing agendas (Appendix 3, F1–F4).

2.8 | Theme G. Others

Two interviewees noted that the existing disconnection between OH and overall health adversely impacts the development of guidelines and policy documents. Dental professionals are perceived as "very isolated from the rest of health professions" (P06), which affects communication with other sectors. One participant remarked that dentists have not succeeded in conveying the importance of OH for other conditions and noted that OH guidelines are often difficult for non-dental professionals to understand. This lack of integration hinders efforts to position OH as an essential component of overall health and well-being.

Most participants perceived technology as a facilitator for creating evidence-informed products in OH. They noted that the guideline development process could benefit from creating digital platforms for monitoring emerging evidence using artificial intelligence and from implementing visualisation tools to present final guideline recommendations to the target audience effectively. One interviewee highlighted that some tools widely used in medicine, such as clinical decision support systems incorporating evidence-based recommendations, could help bridge the gap between guidelines and dental clinicians (Appendix 3, G1–G2).

3 | Discussion

This qualitative study examined factors that hinder and facilitate the integration of research evidence into OH guidelines and policies, as perceived by those responsible for their creation. Participants' perceptions were categorised across seven main emerging themes, including topics related to research evidence, attributes of guidelines and policy documents, organisational and system-level factors, contact and collaboration, guidelines and policy users, and guideline developers and policymakers. Twenty-eight different subthemes, representing a wide variety of barriers and facilitators, were reported, with factors related to the methodological rigour of guidelines and policy documents frequently mentioned as enablers. Participants also emphasised challenges associated with attitudes toward evidence-informed decision-making and health system characteristics. The findings highlight several factors specific to OH, including resistance to change due to the need to acquire new dental materials, lack of patient advocacy, overemphasis on personalised treatment and surrogated outcomes, regulatory challenges with dental devices, difficulties using economic evidence, a disconnect between evidence and coverage, low priority given by authorities and the public, and poor communication between dental and non-dental professionals.

Participants' perceptions in our study align with findings from previous systematic reviews that identified access to high-quality, relevant research evidence, collaborations with policymakers, and availability of methodologists and technical expertise as the most significant factors influencing evidence use by policymakers in other health sectors [15, 16]. Our findings also align with previously documented barriers and facilitators for OH policies in Africa, where poor integration of OH care with the rest of the health system, limited communication with non-dental professionals, and organisational-level deficiencies were noted as key challenges obstructing OH policy efforts [14]. Additionally, the development of OH policies in Africa was facilitated by growing awareness of the connection between non-communicable diseases and OH, as well as by international collaborations [14].

This study is the first to explore the perceived barriers to and facilitators for using research evidence to inform guidelines and policies reported by guideline developers and policymakers in OH. It was designed and conducted by researchers familiar with guidelines and policies in the OH field, who encourage both ethical research practices and standardised methodologies. A significant strength of our study lies in the diversity of

its participants, who represent seven organisations across three continents. This diversity allowed us to gather insights from individuals in countries with varying income levels and to capture a range of genders, ages, backgrounds, and professional profiles. As a result, diverse aspects influencing the use of research evidence in OH guidelines and policy were identified, extending beyond commonly reported challenges such as resource constraints and limited availability of necessary expertise. One possible limitation of our study is that the researchers' positionality may have contributed to response bias—for example, participants might have tailored their answers based on what they perceived the researchers wanted to hear. This risk was particularly relevant given that some participants were familiar with our previous work. Such familiarity may have influenced their responses, potentially discouraging them from expressing critical views about evidence-informed guidelines due to concerns about judgement or misunderstanding. To mitigate these potential biases, several strategies were employed, including ongoing reflexivity throughout the research process and explicitly stating at the beginning of each interview that there were no right or wrong answers. Another potential limitation of our study is that nonverbal communication data were not collected. The research team recognise that nonverbal cues can provide valuable insights into participants' responses, enriching the interpretation of their perspectives [26].

A further limitation that should be noted is that the perceptions of guideline and policy users were not obtained directly from the users themselves. Instead, the data reflect the views of guideline developers and policymakers, who shared their understanding of the barriers and facilitators experienced by the intended users. This indirect approach may limit the credibility of our findings regarding end-user perspectives. However, guideline developers frequently formally engage with end users through various stages of the guideline development process, including external review and implementation. These interactions often provide meaningful feedback that can shape the guideline developer's understanding of users' experiences. Thus, while indirect, the reported perceptions are contextually grounded and retain relevance and validity as part of a qualitative framework.

By gathering insights from individuals directly involved in developing evidence-informed guidelines and policies in OH, the findings underscore critical challenges and enablers in this process. While some factors identified in our study have been previously mentioned in the literature, they were opinion-based rather than research-based [12]. Additionally, the limited existing evidence primarily focuses on the medical field, leaving a significant gap in the OH context. This study addresses this gap by providing context-specific insights for OH with a global scope. Identifying barriers and facilitators alone does not resolve the inconsistent and informal use of research evidence in OH policies and guidelines. Many of the barriers reported were not specific to the documents or organisational characteristics themselves but instead related to broader health system-level challenges. A comprehensive understanding of the integration of research evidence into OH evidence-informed guidelines requires viewing the issue as part of a broader health ecosystem, where a network of interconnected components influences one another. Strategies to enhance this process must incorporate this perspective and avoid being treated as isolated phenomena.

The identified barriers and facilitators are deeply interconnected, with clear dependencies between them. For instance, one of the most frequently reported barriers was the lack of relevant and reliable research evidence to support OH guidelines (Theme A: Research Evidence). Similarly, there is a scarcity of studies exploring patients' values and preferences in OH, which makes it challenging to systematically incorporate the patient perspective in guideline development (Theme E: Guideline and Policy Users). Another example of this is the relationship between attitudes toward EIDM (Theme F: Guideline Developers and Policymakers), methodological rigour (Theme B: Guideline and Policy Document Attributes), and workload (Theme C: Organisational- and System-Level). While positive attitudes toward EIDM can encourage ongoing training and a commitment to methodological rigour, high and sustained workload can limit the ability to apply best practices. In such contexts, speed and feasibility are often prioritised over rigour, even by those who value EIDM. Therefore, addressing one barrier may not be feasible until another, more upstream barrier is resolved.

Our findings contribute to a deeper understanding of the current situation, with many OH guidelines and policies lacking structured and transparent incorporation of research evidence. Organisations responsible for developing these documents can leverage these findings to implement changes in their process and create collaborations at a subnational, national, regional, and global scale. Because the combination of local and global evidence provides valuable information, fostering better communication and cooperation with other organisations to share data generated during guideline development—such as data from systematic reviews and meta-analysis or evidence to inform contextual factors used to inform policy and guideline decisions—can support the adoption of OH guidelines [27]. Additionally, close contact and collaboration with researchers can ensure that systematic reviews are tailored to meet the specific needs of guideline developers and policymakers, providing answers to prioritised questions. Technological advancements can also play a pivotal role by enhancing strategies to streamline the evidence synthesis process, utilising tools and software that optimise data synthesis, improve visualisation, and facilitate document comparison.

Guidelines and policies serve as the foundation for evidence-informed clinical and policy decision-making in medicine. The OH community, on the other hand, lacks a robust body of global, regional, and country-level guidelines and policies that could help cross-communicate with the medical field about the most effective OH interventions. Adopting established methodological standards for guideline development in medicine is crucial for advancing OH. A thorough analysis of the challenges obstructing the seamless integration of research evidence into the guideline and policy document development process is a crucial first step toward rectifying the current situation in OH. Similarly, recognising the facilitators can help devise strategies to enhance this process and enhance the effective use of evidence.

4 | Conclusion

This study provides valuable insights into barriers and facilitators that impact the seamless integration of research evidence into guideline and policy development processes. Participants

identified a range of challenges, including OH-specific issues—such as an overemphasis on personalised treatment, the overvaluation of surrogate outcomes, regulatory complexities related to dental devices, difficulties incorporating economic evidence, and a disconnection between evidence-informed care and coverage. In addition, several cross-cutting barriers emerged that, while not unique to OH, are highly relevant to this field. These include organisational and system-level factors such as limited resources, lack of access to necessary expertise, high workload, health system constraints, contextual circumstances, and external pressures. Together, these findings underscore the need for tailored strategies that address both the field-specific and broader systemic challenges to strengthen evidence-informed guideline development in OH.

Author Contributions

F.V.P., D.O., M.G., and A.C.L. created the study protocol. M.W. and F.V.P. collected the data. F.V.P. analysed data. M.W. reviewed the data for accuracy. D.O. provided methodological contributions for the data analysis. A.C.L., M.G. and F.V.P. interpreted the results. F.V.P. and A.C.L. wrote the first draft of the manuscript. All authors approved the final draft of this manuscript.

Acknowledgements

Francisca Verdugo-Paiva is a PhD candidate and this work has been carried out within the framework of the PhD Programme in Biomedical Research and Public Health, Universitat Autònoma de Barcelona, Spain. The authors wish to express their gratitude to Marisol Verdugo, Ignacia Verdugo, and María Jesús Vega for their invaluable contributions to the qualitative data analysis and the preparation of this manuscript. Furthermore, the authors sincerely thank all participants for their collaboration and willingness to take part in the interview sessions.

Ethics Statement

Ethical approval was not sought because the study protocol met the criteria for exemption from such review according to the Clinical Research Ethics Committee of the Hospital de la Santa Creu i Sant Pau and the Spanish legislation (Law 14/2007 of July 3, on biomedical research).

Consent

Informed consent was obtained from all subjects involved in this study, and the acceptance of recording the session was mandatory for participation in the study. No incentives, monetary or otherwise, were offered for participation.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that supports the findings of this study are available in the Supporting Information of this article.

References

1. H. J. Schünemann, M. Reinap, T. Piggott, et al., "The Ecosystem of Health Decision Making: From Fragmentation to Synergy," *Lancet Public Health* 7, no. 4 (2022): e378–e390.

2. A. Carrasco-Labra, D. E. Polk, O. Urquhart, et al., "Evidence-Based Clinical Practice Guideline for the Pharmacologic Management of Acute Dental Pain in Children," *Journal of the American Dental Association (1939)* 154, no. 9 (2023): 814–825.

3. American Academy of Pediatric Dentistry, "Policy on Snacks and Sugar-Sweetened Beverages Sold in Schools. The Reference of Pediatric Dentistry, 2024".

4. A. M. Glenny, H. V. Worthington, J. E. Clarkson, and M. Esposito, "The Appraisal of Clinical Guidelines in Dentistry," *European Journal of Oral Implantology* 2, no. 2 (2009): 135–143.

5. C. M. Faggion, "Clinician Assessment of Guidelines That Support Common Dental Procedures," *Journal of Evidence-Based Dental Practice* 8, no. 1 (2008): 1–7.

6. C. Zaror, A. Seiffert, N. F. Deana, et al., "Emergency and Sequalae Management of Traumatic Dental Injuries: A Systematic Survey of Clinical Practice Guidelines," *BMC Oral Health* 23, no. 1 (2023): 704.

7. R. Asaithambi, M. Atif, N. Tewari, et al., "Quality Analysis of the Clinical Practice Guidelines for Management of Impacted Maxillary Central Incisors: A Systematic Review," *Evidence-Based Dentistry* 25, no. 2 (2024): 110–111.

8. N. F. Deana, C. Zaror, A. Seiffert, et al., "Quality Appraisal of Clinical Practice Guidelines on Provision of Dental Services During the First Months of the COVID-19 Pandemic," *Journal of Evidence-Based Dental Practice* 21, no. 4 (2021): 101633.

9. F. Verdugo-Paiva, A. M. Rojas-Gómez, V. Wielandt, et al., "Evidence-Informed Guidelines in Oral Health: Insights From a Systematic Survey," *BMC Oral Health* 24, no. 1 (2024): 746.

10. V. C. Correa, L. H. Lugo-Agudelo, D. C. Aguirre-Acevedo, et al., "Individual, Health System, and Contextual Barriers and Facilitators for the Implementation of Clinical Practice Guidelines: A Systematic Metareview," *Health Research Policy and Systems* 18, no. 1 (2020): 74.

11. J. Frantsve-Hawley, E. Abt, A. Carrasco-Labra, et al., "Strategies for Developing Evidence-Based Clinical Practice Guidelines to Foster Implementation Into Dental Practice," *Journal of the American Dental Association (1939)* 153, no. 11 (2022): 1041–1052.

12. H. Spallek, M. Song, D. E. Polk, T. Bekhuis, J. Frantsve-Hawley, and K. Aravamudhan, "Barriers to Implementing Evidence-Based Clinical Guidelines: A Survey of Early Adopters," *Journal of Evidence-Based Dental Practice* 10, no. 4 (2010): 195–206.

13. M. F. Neuppmann Feres, M. G. Roscoe, S. A. Job, J. B. Mamani, G. D. L. Canto, and C. Flores-Mir, "Barriers Involved in the Application of Evidence-Based Dentistry Principles," *Journal of the American Dental Association (1939)* 151, no. 1 (2020): 16–25.

14. F. Verdugo-Paiva, O. Urquhart, C. N. Matanhire-Zihanzu, et al., "Barriers to and Facilitators for Creating, Disseminating, Implementing, Monitoring and Evaluating Oral Health Policies in the WHO African Region: A Scoping Review," *Community Dentistry and Oral Epidemiology* 52, no. 6 (2024): 775–785.

15. K. Oliver, S. Innvar, T. Lorenc, J. Woodman, and J. Thomas, "A Systematic Review of Barriers to and Facilitators of the Use of Evidence by Policymakers," *BMC Health Services Research* 14, no. 1 (2014): 2.

16. S. Innvær, G. Vist, M. Trommald, and A. Oxman, "Health Policy-Makers' Perceptions of Their Use of Evidence: A Systematic Review," *Journal of Health Services Research & Policy* 7, no. 4 (2002): 239–244.

17. J. Ritchie, J. Lewis, N. McNaughton, and R. Ormston, *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, Second ed. (SAGE Publications, 2014).

18. C. Pope and N. Mays, *Qualitative Research in Health Care*, 4th ed. (John Wiley & Sons, 2020).

19. J. Pyo, W. Lee, E. Y. Choi, S. G. Jang, and M. Ock, "Qualitative Research in Healthcare: Necessity and Characteristics," *Journal of Preventive Medicine and Public Health* 56, no. 1 (2023): 12–20.

20. F. Verdugo-Paiva, X. Bonfill, D. Ortuño, M. Glick, and A. Carrasco-Labra, "Policymakers' Perceived Barriers and Facilitators in the Use of Research Evidence in Oral Health Policies and Guidelines: A Qualitative Study Protocol," *BMJ Open* 13, no. 2 (2023): e066048.

21. A. Tong, P. Sainsbury, and J. Craig, "Consolidated Criteria for Reporting Qualitative Research (COREQ): A 32-Item Checklist for Interviews and Focus Groups," *International Journal for Quality in Health Care* 19 (2007): 349–357.

22. R. Boyatzis, *Transforming Qualitative Information: Thematic Analysis and Code Development* (SAGE Publications, 1998).

23. "Lumivero. NVivo Qualitative Data Analysis".

24. H. Schünemann, J. Brożek, G. Guyatt, and A. Oxman, "Handbook for Grading the Quality of Evidence and the Strength of Recommendations Using the GRADE Approach, 2013", https://gdt.gradepro.org/app/handbook/handbook.html.

25. M. C. Brouwers, K. Kerkvliet, K. Spithoff, and AGREE Next Steps Consortium, "The AGREE Reporting Checklist: A Tool to Improve Reporting of Clinical Practice Guidelines," *BMJ* 352 (2016): i1152.

26. M. A. Denham and A. J. Onwuegbuzie, "Beyond Words: Using Nonverbal Communication Data in Research to Enhance Thick Description and Interpretation," *International Journal of Qualitative Methods* 12, no. 1 (2013): 670–696.

27. Global Commission on Evidence to Address Societal Challenges, "Evidence Commission Update 2023: Strengthening Domestic Evidence-Support Systems, Enhancing the Global Evidence Architecture, and Putting Evidence at the Centre of Everyday Life, 2023", McMaster Health Forum, https://www.mcmasterforum.org/networks/evidence-commission/domestic-evidence-support-systems.

Supporting Information

Additional supporting information can be found online in the Supporting Information section. **Appendix 1. Appendix 2. Appendix 3.**Themes and illustrative quotes of reported barriers and facilitators.