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Original Article

Oral Health Misinformation and Treatment Choices Among Adult Dental Patients

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ABSTRACT

Background: Oral health misinformation is increasingly encountered through social media, product marketing, online reviews, family advice, and informal digital networks. Although misleading dental claims are often treated as a digital literacy problem, their influence on treatment decisions may be shaped by fear, cost, trust, symptom uncertainty, preference for natural remedies, and expectations created by visual media. Objective: This study explored how adult dental patients encountered, interpreted, and negotiated oral health misinformation during recent dental treatment decision-making. Methods: A qualitative interview-based study was conducted among 10 adult dental patients who had recently faced a dental treatment decision and had encountered oral health information through online or interpersonal sources. Semi-structured interviews explored information sources, credibility judgments, emotional and financial influences, professional consultation, and perceived effects on treatment preferences. Data were analyzed using reflexive thematic analysis. Results: Four interrelated themes were identified: self-diagnosis and symptom interpretation; persuasive credibility cues in digital spaces; cost, fear, and naturalness as decision shortcuts; and the corrective yet uneven influence of professional consultation. Misinformation was described as reshaping symptom meaning, reinforcing delay or avoidance, encouraging product use, supporting antibiotic expectations, and creating unrealistic cosmetic or procedural expectations. Respectful, specific, and transparent dental communication helped some participants revise misinformation-influenced beliefs. Conclusion: Oral health misinformation should be understood as a communication, trust, and service-experience issue embedded within dental decision-making. Myth-sensitive chairside discussion, transparent pricing, and accessible professional digital content may reduce misinformation-related uncertainty. Keywords: dental patients; oral health misinformation; treatment choice; social media; digital health literacy; shared decision-making; qualitative research.

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INTRODUCTION

Oral health is an essential component of general health, yet dental conditions are frequently treated as isolated clinical problems rather than as conditions shaped by social, economic, informational, and behavioural determinants. Dental caries, periodontal disease, tooth loss, oral pain, and oral cancer affect eating, speech, appearance, self-confidence, employability, social participation, and quality of life. The global burden of oral diseases remains substantial, particularly in settings where preventive care is limited, treatment costs are borne directly by patients, and timely professional consultation is constrained by fear, affordability, or access barriers (1). These realities make dental treatment decisions clinically and socially

important, because even apparently routine choices such as delaying scaling, using over-the-counter whitening products, requesting antibiotics, refusing root canal therapy, or seeking cosmetic treatment may carry long-term implications for oral health.

In contemporary dental care, treatment decisions are increasingly shaped by information encountered before, between, and after consultations. Adult dental patients commonly search online, watch short videos, read reviews, compare product claims, discuss symptoms with family members, and interpret professional advice through prior experiences and peer narratives. Oral health research has shown that disease patterns and care-seeking behaviours are influenced by affordability, commercial exposure, social conditions, preventive service access, and the broader organization of health systems, indicating that patients' decisions cannot be understood solely as individual knowledge deficits (2). Within this context, misinformation becomes powerful not simply because patients are uninformed, but because misleading claims often attach themselves to existing anxieties, cost pressures, distrust, embarrassment, pain, desire for natural remedies, and uncertainty about invasive or expensive procedures. Oral neglect and delayed dental care have therefore been increasingly interpreted through social, policy, commercial, and communicative determinants rather than through individual behaviour alone (3).

For the present study, oral health misinformation refers to inaccurate, incomplete, exaggerated, unsupported, or misleading information that may distort a patient's understanding of symptoms, risks, procedures, products, or treatment options, regardless of whether the source intends to deceive. This broader definition is important in dentistry because misinformation does not always appear as an obviously false statement. A cosmetic video may show a real aesthetic result while omitting tooth preparation, maintenance costs, replacement needs, or biological risks. A product review may describe temporary stain removal while overstating safety or permanence. A root canal video may highlight rare complications in a way that makes clinically recommended tooth-preserving treatment appear dangerous. In these cases, the misleading effect arises not only from factual inaccuracy but also from selective framing, emotional presentation, visual persuasion, and omission of clinically relevant context.

Digital media can support oral health literacy when accurate, accessible, and professionally grounded information helps patients prepare for consultation and participate in shared decision-making. However, the same platforms can also circulate claims that fluoride is harmful in ordinary use, scaling loosens teeth, antibiotics can replace definitive dental treatment, root canal therapy causes systemic illness, charcoal or natural products are safer than professional care, or whitening and veneers are simple lifestyle improvements without risk. Social media misinformation may be particularly persuasive because it is visual, repetitive, emotionally engaging, socially endorsed, and often presented through confident personal testimony rather than through balanced clinical explanation. Evidence from broader health misinformation research indicates that false or misleading health-related content spreads widely across online platforms and may influence public understanding, trust, and care-seeking behaviour (4). In dentistry, this risk is amplified because many procedures are paid for directly, may be painful or anxiety-provoking, and often involve irreversible decisions.

Dental misinformation has distinctive clinical and behavioural implications because dental treatment decisions are often staged, compared, delayed, and negotiated. A patient may receive a treatment plan, search online, consult family members, compare prices, read product reviews, and return with doubts or alternative preferences. Social media may therefore function either as a bridge to timely professional care or as a barrier that reinforces delay, self-treatment, unrealistic expectations, or mistrust. Evidence on social media for oral health promotion suggests that digital platforms can support patient education when messages are accurate, professionally prepared, and accessible (5). The challenge is that evidence-based content competes with influencer testimonials, commercial product claims, emotionally compelling before-and-after images, and patient narratives that may appear authentic while lacking diagnostic context or risk explanation.

Treatment decisions in dentistry are shaped not only by clinical indications but also by perceived urgency, affordability, anticipated pain, prior experiences, trust in the dentist, perceived necessity, and the way

options are communicated during consultation (6). These features make qualitative inquiry particularly appropriate, because the influence of misinformation cannot be fully understood through prevalence estimates or content analysis alone. A qualitative approach allows exploration of how patients interpret claims, judge credibility, negotiate fear and cost, discuss information with dentists, and revise or maintain treatment preferences after professional consultation. Such inquiry is especially useful where misinformation intersects with subjective experience, relational trust, uncertainty, and perceived control over health decisions.

Existing literature has documented the quality and influence of dental information across social media platforms, including Instagram, YouTube, TikTok, Facebook, product-related hashtags, fluoride posts, and procedure-specific content. Instagram and other image-based platforms shape expectations about aesthetic outcomes, clinical normality, and treatment value before patients enter dental clinics (7). Studies of dental misinformation on social media show that patients interact actively with misleading content by commenting, sharing, comparing, and interpreting claims through their own fears and experiences (8). Procedure-specific misinformation is particularly concerning because it may influence decisions about irreversible or clinically significant treatments. For example, YouTube videos on root canal treatment vary in quality and usefulness, and unreliable popular content may make extraction or avoidance appear safer than endodontic care (9). Fluoride-related misinformation similarly demonstrates how scientific uncertainty, institutional distrust, fears about chemicals, and ideas of naturalness can be combined into persuasive anti-fluoride narratives (10).

Short-form video platforms add further complexity by compressing dental decisions into visually striking, emotionally appealing, and highly shareable content. Analyses of TikTok dental content suggest that popularity is often driven by entertainment value, visual transformation, personality, and immediacy rather than by comprehensive clinical explanation (11). Product-based misinformation operates through similar mechanisms. Toothpaste hashtags, whitening claims, charcoal products, and home remedies may be framed as natural, fast, affordable, or professional-equivalent, especially when promoted through peer endorsement and everyday consumer language (12). Misconceptions also circulate through interpersonal channels such as family advice, WhatsApp groups, online forums, and review sites, meaning that a patient may encounter a claim online but experience it later as trusted social advice (13). Studies from different national contexts further indicate that oral health misinformation is not confined to one country or platform, but is shaped by local patterns of trust, access, cost, and service experience (14).

Video-based misinformation deserves particular attention because platforms such as YouTube often serve as informal educational resources before dental visits. Patients may encounter incomplete or unsupported information presented without adequate clinical background, and testimonial formats may appear persuasive because they show procedures, outcomes, and personal experiences while omitting eligibility, prognosis, complications, or maintenance requirements (15). Image-based fluoride misinformation and other preventive-care narratives also show that misleading content may resemble health education, especially when it combines a partial truth with an unsupported conclusion that alters behaviour (16). These platform-specific patterns reflect a broader public health problem in which misinformation spreads uncertainty, distrust, and confusion across healthcare fields (17). Once encountered, misinformation may be difficult to correct because repetition, emotional relevance, familiarity, and perceived credibility can strengthen belief even after false claims are challenged (18).

The conceptual boundaries of misinformation remain debated. Some literature defines misinformation narrowly as false information, whereas other work includes incomplete, misleading, or unsupported information that distorts interpretation and decision-making (19). The broader definition is particularly suitable for dental care because many misleading claims contain fragments of truth but omit clinical conditions, risk stratification, maintenance requirements, or professional diagnosis. Psychological research further indicates that misinformation belief is influenced by prior attitudes, emotion, repetition, identity, source credibility, and cognitive fluency (20). These mechanisms are highly relevant to dental decision-making: a patient afraid of drilling may accept home-remedy claims, a patient worried about cost may believe treatment is unnecessary, and a patient seeking cosmetic improvement may be persuaded by

repeated images of flawless smiles without understanding biological constraints. Research on fake news and misinformation also suggests that people often rely on intuitive judgments when information is rapidly circulating, socially reinforced, and easy to process (21).

Despite growing research on dental misinformation content, less is known about how adult dental patients integrate such information into actual treatment decisions. Existing studies often assess platform quality, misinformation prevalence, or public misconceptions, but patient-level interpretation during real treatment choices remains insufficiently understood. This study addresses that gap by exploring how adult dental patients encounter, interpret, and negotiate oral health misinformation when making recent treatment decisions. Using a qualitative interview design informed by a PICo/SPIDER logic, the study focuses on adult dental patients as the population/sample, misinformation-influenced dental treatment decision-making as the phenomenon of interest, real-world dental consultation and digital/interpersonal information environments as the context, semi-structured interviews as the design, and perceived credibility, barriers, facilitators, professional correction, and treatment preferences as the evaluation focus. The objective was to examine how misinformation interacts with cost, fear, naturalness, digital credibility cues, professional consultation, and patient trust in shaping reported dental treatment choices among adult patients.

MATERIALS AND METHODS

This study used an interpretative qualitative design based on semi-structured interviews and reflexive thematic analysis. The qualitative approach was appropriate because the study sought to understand how adult dental patients interpreted misinformation, judged credibility, negotiated uncertainty, and described the influence of digital or interpersonal claims on recent treatment decisions. The purpose was not to estimate the prevalence of misinformation exposure or quantify its population-level effects, but to examine the meanings, decision pathways, emotional responses, and consultation experiences through which misinformation became relevant to dental care. Qualitative inquiry is well suited to research questions concerned with interpretation, experience, trust, and social context, particularly when participants' accounts are needed to explain how health-related decisions are constructed in real-world settings (22).

The study was conducted among adult dental patients who had recently faced a dental treatment decision and had encountered oral health information through online or interpersonal sources. Participants were eligible if they were adults, had experience of a recent dental treatment decision, and were able to describe exposure to oral health claims or advice that influenced, complicated, delayed, or shaped their thinking about treatment. The sample consisted of 10 adult dental patients selected through purposive sampling. This approach was used to obtain information-rich accounts rather than statistical representativeness, with attention to variation in misinformation sources and treatment decision contexts. Participant accounts included exposure to Instagram, TikTok, YouTube, Facebook, Google reviews, product reviews, family WhatsApp messages, and clinic websites. The treatment decision contexts described across interviews included whitening, periodontal care, root canal treatment, dental implants, antibiotic requests, cosmetic expectations, natural products, and professional treatment plans.

Semi-structured interviews were used because they allowed all participants to discuss comparable domains while retaining flexibility to describe their own treatment decisions in depth. The interview approach explored recent dental symptoms or treatment recommendations, sources of oral health information, perceived credibility of claims, emotional and financial influences, expectations about treatment, use of products or home remedies, communication with dentists, and whether professional consultation changed participants' understanding or preferences. Semi-structured interview guides are appropriate when researchers require both comparability across participants and sufficient openness to explore unanticipated meanings, experiences, and explanations (23). This format allowed the study to examine how misinformation interacted with fear, cost, naturalness, digital trust cues, and professional communication across different types of dental decisions.

Ethical approval was obtained from Prima Indonesia University, Indonesia, and informed consent was obtained from all participants before data collection. Participants were informed about the purpose of the

study, voluntary participation, confidentiality, and their right to decline participation. Participant identities were anonymized using coded identifiers from P1 to P10. The use of anonymized identifiers enabled linkage between themes and participant accounts while protecting personal identity. The reporting of participant accounts avoided identifiable personal details and focused on decision-making experiences, information sources, and perceptions related to dental treatment.

Interview data were analyzed using reflexive thematic analysis. This analytic approach was selected because the study aimed to identify patterns of meaning across participants' accounts while recognizing that themes are interpretative constructions developed through researcher engagement with the data rather than purely mechanical categories. Reflexive thematic analysis involves familiarization with the data, coding meaningful segments, developing candidate themes, reviewing and refining themes, defining theme boundaries, and producing an analytic narrative that connects themes to the research question (24). In the present study, analysis focused on how participants described misinformation sources, credibility judgments, emotional and cost-related shortcuts, treatment delays or preferences, and the corrective or uneven role of professional consultation.

The analytic process generated four main themes: self-diagnosis and symptom interpretation; persuasive credibility cues in digital spaces; cost, fear, and naturalness as shortcuts in decision-making; and the corrective yet uneven influence of professional consultation. These themes were developed by examining recurring patterns across participant accounts while preserving attention to differences in treatment type, information source, and consultation experience. Participant quotations and account summaries were used to link interpretations to the interview material, and the analysis emphasized meaning, context, and decision processes rather than numerical generalization. The sample size was appropriate for a focused qualitative study because the aim was depth, relevance, and analytic insight rather than statistical inference. Qualitative sample adequacy was considered in relation to the study aim, specificity of the participant group, relevance of participants' experiences, and the richness of information provided, consistent with guidance that saturation and adequacy should not be reduced to a fixed numerical threshold (25,26).

Trustworthiness was addressed by maintaining a clear relationship between the research question, interview domains, coding process, theme development, and participant evidence. Credibility was strengthened through direct linkage between participant accounts and the generated themes. Dependability was supported by using a consistent interview focus across participants and by documenting analytic movement from interview material to codes and themes. Confirmability was supported by grounding interpretations in participant accounts rather than treating misinformation as an assumed effect. Transferability was supported through description of participant decision contexts, misinformation sources, and treatment-related concerns, allowing readers to judge the relevance of findings to similar dental care settings. The findings are therefore interpreted as an analytic account of how misinformation was described as shaping adult dental patients' treatment decision-making, not as a prevalence estimate of misinformation exposure among all dental patients.

RESULTS

The analysis identified four interrelated themes describing how oral health misinformation shaped adult dental patients' treatment decision-making: self-diagnosis and symptom interpretation; persuasive credibility cues in digital spaces; cost, fear, and naturalness as shortcuts in decision-making; and the corrective yet uneven influence of professional consultation. Across the 10 participant accounts, misinformation was not described as acting in isolation. Instead, misleading claims became influential when they intersected with existing concerns about pain, cost, dental anxiety, distrust, preference for natural remedies, uncertainty about professional advice, or desire for rapid cosmetic improvement. Participants actively interpreted, compared, questioned, and sometimes revised the information they encountered, indicating that misinformation operated through a relational decision-making process rather than through passive acceptance.

Table 1. Thematic Matrix of Misinformation-Related Treatment Decision Processes Among Adult Dental Patients

Theme	Subthemes	Participant Accounts, n/N	Main Information Sources	Treatment Decision Contexts	Evidence Strength	Participant IDs
Self-diagnosis and symptom interpretation	Reinterpretation of warning signs; substitution of professional diagnosis; confusion between symptom relief and cure	4/10	Facebook, Google, family/social sources, online claims	Bleeding gums, periodontal care, toothache, infection, antibiotic use	Moderate	P2, P3, P7, P10
Persuasive credibility cues in digital spaces	Visual transformation; professional-looking settings; influencer authenticity; peer comments	4/10	TikTok, Instagram, YouTube, product reviews, online videos	Whitening, implants, veneers, charcoal whitening	Moderate	P1, P4, P5, P9
Cost, fear, and naturalness as decision shortcuts	Cost avoidance; fear of procedures; preference for natural products; delayed professional care	3/10	Videos, reviews, social media groups, product claims	Root canal treatment, scaling, periodontal care, charcoal products	Moderate	P5, P6, P7
Corrective yet uneven influence of professional consultation	Respectful correction; visual explanation; transparent pricing; dismissive communication	4/10	Dental consultation after online exposure	Sensitivity treatment, implants, root canal concern, treatment estimate	Moderate	P1, P4, P6, P8

Self-diagnosis and symptom interpretation emerged in four of the 10 accounts. Participants used online and interpersonal information to assign meaning to symptoms before or after professional consultation. Bleeding gums, toothache, periodontal symptoms, and infection-related pain were interpreted through claims found on Facebook, Google, family messages, or other informal sources. P2 interpreted bleeding gums as a detoxification process and changed to fluoride-free toothpaste after encountering claims that conventional toothpaste was harsh. P7 postponed periodontal treatment after reading Facebook group discussions suggesting that deep cleaning could loosen teeth. P3 initially requested antibiotics after online searches and Facebook content suggested that medication could calm the problem and delay definitive dental treatment. P10 similarly expected tablets to resolve infection and did not initially understand why tooth-level treatment was required. These accounts show that misinformation influenced treatment decisions by reframing clinical warning signs as harmless, reversible, or manageable without professional intervention.

Persuasive credibility cues in digital spaces were evident in four accounts. Participants often judged online information by visual appeal, confidence of presentation, professional-looking settings, peer endorsement, and perceived authenticity rather than by evidence quality or clinical completeness. P4 found implant videos convincing because the speakers appeared professional and the clinic backgrounds looked modern. P9 was influenced by TikTok videos showing rapid aesthetic transformation, although these videos did not explain tooth preparation, maintenance, or future replacement. P1 trusted whitening-related influencer content because the presenters appeared like ordinary users rather than advertisers. P5 viewed charcoal whitening as safe because many commenters reported positive results. In these accounts, digital credibility was constructed through visual and social signals that made incomplete or misleading claims appear reliable.

Cost, fear, and naturalness functioned as decision shortcuts in three accounts. Misinformation became more persuasive when it aligned with practical barriers or emotional concerns already present in the participant's decision-making process. P6 had been advised to undergo root canal treatment but was already worried about the price and procedure; online videos portraying root canals as harmful provided an additional reason to consider avoidance or extraction. P5 delayed scaling while using charcoal products marketed as stain-removing and chemical-free. P7 associated oils, rinses, and other home remedies with control and safety, whereas professional gum treatment was perceived as invasive and risky. These accounts indicate that misinformation did not create hesitation alone; rather, it gave participants a seemingly coherent justification for delaying, modifying, or avoiding professional treatment when fear, cost, or preference for natural remedies was already present.

The corrective yet uneven influence of professional consultation was identified in four accounts. Participants revised misinformation-influenced beliefs when dentists gave specific explanations, showed clinical evidence, clarified risk, or explained treatment costs transparently. P1 stopped using a sensitivity product after the dentist explained that it did not repair enamel. P4 revised expectations about implants after learning that online videos typically showed successful cases without explaining screening requirements. P8 became more confident when the treatment estimate was explained item by item, reducing suspicion generated by online comments about unnecessary dental charges. However,

professional correction was less effective when participants felt dismissed. P6 reported lower confidence when concern about root canal treatment was answered only with advice not to believe the internet. These contrasting accounts show that professional consultation can reduce misinformation-related uncertainty, but its corrective effect depends on clarity, respect, specificity, and responsiveness to the patient's concern.

Table 2. Representative Participant Evidence by Theme and Subtheme

Theme	Subtheme	Representative Participant Evidence	Participant ID
Self-diagnosis and symptom interpretation	Reframing warning signs as normal processes	Bleeding gums were interpreted as a detoxification process, leading to concern about conventional toothpaste and a switch to a fluoride-free product.	P2
Self-diagnosis and symptom interpretation	Fear-based reinterpretation of periodontal care	Facebook group discussions suggested that deep cleaning could make teeth fall out, contributing to postponement of periodontal treatment.	P7
Self-diagnosis and symptom interpretation	Confusion between symptom relief and cure	Online searches and Facebook content supported the belief that antibiotics could calm the problem and delay definitive dental treatment.	P3
Self-diagnosis and symptom interpretation	Misunderstanding dental infection management	Tablets were expected to clear infection, and the need for treatment of the affected tooth was not initially understood.	P10
Persuasive credibility cues in digital spaces	Professional-looking digital presentation	Implant videos appeared reliable because speakers looked professional and clinic settings appeared modern.	P4
Persuasive credibility cues in digital spaces	Visual transformation as credibility	TikTok videos showed attractive teeth within a few days without explaining tooth preparation or future replacement.	P9
Persuasive credibility cues in digital spaces	Influencer authenticity	Whitening influencers appeared like ordinary users rather than advertisers, making their claims seem trustworthy.	P1
Persuasive credibility cues in digital spaces	Peer endorsement of products	Charcoal whitening appeared safe because many commenters reported that it worked.	P5
Cost, fear, and naturalness as decision shortcuts	Cost and fear reinforcing misinformation	Root canal misinformation became persuasive because the procedure was already feared and considered costly.	P6
Cost, fear, and naturalness as decision shortcuts	Natural products as safer alternatives	Charcoal products delayed scaling because they were presented as stain-removing and chemical-free.	P5
Cost, fear, and naturalness as decision shortcuts	Home remedies as control and safety	Oils and rinses appeared safer and more patient-controlled than professional gum treatment.	P7
Corrective yet uneven influence of professional consultation	Specific explanation correcting misinformation	Use of a sensitivity product stopped after the dentist explained that it did not repair enamel.	P1
Corrective yet uneven influence of professional consultation	Contextualizing online success stories	Expectations about implants changed after the dentist explained that videos usually show successful cases without screening details.	P4
Corrective yet uneven influence of professional consultation	Dismissive correction reducing trust	Concern about root canal treatment was not resolved when the response was limited to advice not to believe the internet.	P6
Corrective yet uneven influence of professional consultation	Transparent pricing improving trust	Confidence increased after the treatment estimate was broken down item by item, reducing concern about unnecessary charges.	P8

The pattern across themes indicates that misinformation was most consequential when it became embedded in a practical treatment dilemma. Symptom-related misinformation was most visible in periodontal and infection-related decisions, where participants interpreted bleeding gums, toothache, and infection through informal explanations that reduced perceived urgency or encouraged non-definitive management. Visual credibility cues were more prominent in whitening, implant, veneer, and cosmetic treatment decisions, where transformation images, influencer claims, and peer comments shaped expectations about safety, speed, and effectiveness. Cost and fear were most evident in decisions involving invasive or expensive treatment, particularly root canal therapy and periodontal care. Professional consultation functioned as a potential corrective mechanism, but only when the dentist addressed the specific misconception and linked the explanation to the participant's symptoms, risks, costs, and concerns.

Overall, the findings suggest that oral health misinformation operated through connected decision-making mechanisms. It changed symptom interpretation by making warning signs appear harmless or manageable without professional treatment; shaped credibility judgments through polished visual presentation and social endorsement; reinforced avoidance when aligned with cost, fear, or preference for natural products; and was reduced when professional explanations were respectful, specific, and transparent. The results therefore position oral health misinformation as a communication, trust, and service-experience issue embedded within dental treatment decision-making rather than solely as a problem of online exposure.

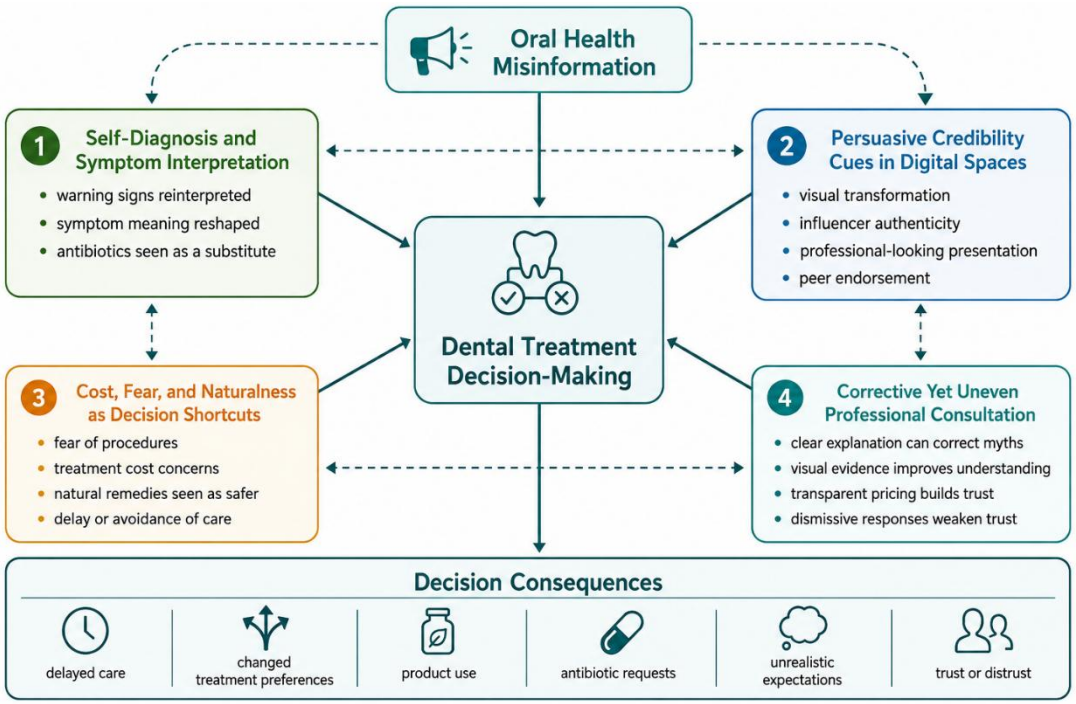

Figure 1 Conceptual model of interconnected themes influencing dental treatment decision-making among adult dental patients. Oral health misinformation interacted with four qualitative themes: self-diagnosis and symptom interpretation, persuasive credibility cues in digital spaces, cost, fear, and naturalness as decision shortcuts, and the corrective yet uneven influence of professional consultation. These themes were not independent pathways; rather, they operated as interrelated influences shaping how participants interpreted symptoms, judged online credibility, weighed treatment cost and fear, and responded to professional explanations. The resulting decision consequences included delayed care, changed treatment preferences, product use, antibiotic requests, unrealistic expectations, and trust or distrust in professional treatment recommendations.

DISCUSSION

This qualitative study explored how adult dental patients described the role of oral health misinformation in recent treatment decision-making. The findings suggest that misinformation was most influential when it intersected with practical, emotional, and relational concerns already present in the patient's decision context. Participants did not describe misleading information as a simple external exposure that automatically changed behaviour. Rather, misinformation became persuasive when it helped explain symptoms, reduce uncertainty, justify delay, lower perceived cost, avoid feared procedures, support preference for natural remedies, or challenge professional recommendations. This interpretation extends previous work on dental treatment decision-making by showing that misinformation functions not only as inaccurate content but also as a meaning-making resource used by patients when clinical choices feel painful, expensive, risky, or difficult to trust (27,28).

The first major finding was that misinformation reshaped symptom interpretation. Participants used online and interpersonal claims to reinterpret bleeding gums, toothache, periodontal symptoms, and infection-related pain. In some accounts, warning signs were normalized or reframed as harmless processes, while in others, antibiotics or home remedies were perceived as substitutes for definitive care. This pattern is clinically important because dental symptoms often require timely assessment, and confusion between temporary symptom relief and disease resolution may delay appropriate treatment. The finding is consistent with broader evidence that access, affordability, fear, acceptability, and communication influence oral health service use, particularly when patients must decide whether professional care is necessary or avoidable (29). In this study, misinformation appeared to reinforce uncertainty around that decision point by offering explanations that were emotionally or financially easier to accept than professional treatment.

The second finding was that participants judged digital credibility through visual and social cues rather than through evidence quality alone. Professional-looking clinic backgrounds, confident speakers, influencer

authenticity, transformation videos, and peer comments made online claims appear reliable. This was particularly evident in aesthetic, whitening, implant, and veneer-related decisions, where visual change was presented without adequate discussion of screening, preparation, maintenance, biological risk, or replacement. These findings align with previous concerns about shared decision-making in dentistry, where patient preferences and expectations must be discussed openly rather than assumed to be clinically neutral (27,28). When patients arrive with expectations shaped by transformation-focused content, the consultation must address both the visible promise and the omitted clinical realities. The issue is therefore not only whether patients have encountered misinformation, but whether the dental consultation creates space to examine what made the misinformation credible.

The third finding was that misinformation was strengthened by cost, fear, and preference for naturalness. Participants who already feared procedures, worried about treatment cost, or preferred gentler and more controllable options were more likely to find misleading alternatives persuasive. Root canal misinformation, for example, became more convincing when the procedure was already perceived as costly and frightening. Similarly, charcoal products, oils, rinses, and other natural remedies appealed to participants because they were framed as safer, cheaper, and patient-controlled. This finding suggests that misinformation correction cannot rely only on factual rebuttal. If the underlying concern is affordability, fear, or distrust, then simply stating that an online claim is false may not resolve the reason the claim was attractive. Dental teams need to separate the patient's legitimate concern from the misleading conclusion, validating anxiety or cost concerns while clearly explaining the clinical risk of delay or substitution.

The fourth finding was that professional consultation could reduce misinformation-related uncertainty, but only when the response was specific, respectful, and transparent. Participants revised their understanding when dentists explained risk clearly, used visual evidence, contextualized online success stories, or broke down costs item by item. In contrast, dismissive communication weakened trust when participants felt that their concerns were rejected rather than addressed. This supports the view that misinformation is a patient-safety and communication issue as much as a digital information issue. Shared decision-making in dentistry requires more than presenting a treatment plan; it requires eliciting prior beliefs, asking what the patient has seen or heard, clarifying the source of concern, and explaining options in terms that connect with the patient's values, fears, and financial realities (27,28).

These findings have several implications for clinical practice and dental public health. At the chairside level, dentists should routinely ask patients whether they have encountered online or interpersonal information about the proposed procedure. A non-judgmental question such as "Have you seen or heard anything about this treatment that worries you?" may help reveal misinformation before it silently shapes refusal, delay, product use, or unrealistic expectations. Dentists should also develop concise explanations for common myths about fluoride, scaling, root canal treatment, antibiotics, implants, whitening, veneers, charcoal products, and natural remedies. Correction should be specific rather than dismissive, because patients may interpret generic warnings against the internet as avoidance of their concern. At the service level, transparent pricing, written summaries, visual aids, and post-consultation educational material may reduce uncertainty and prevent patients from seeking explanations only from informal digital sources.

The findings also have implications for public health communication. Oral health organizations and dental services should produce platform-appropriate content that responds directly to the claims patients actually encounter. Evidence-based communication should be brief, visual, respectful, and accessible, while still explaining risks, limitations, and indications. Public health messaging should not portray patients as irrational for seeking online information. Instead, it should recognize that online searching often reflects uncertainty, fear, affordability concerns, or a desire for control. The global oral health agenda emphasizes prevention, patient-centred systems, and improved population understanding of oral health, and misinformation-responsive communication should be considered part of that broader strategy (30).

The study's qualitative design allowed detailed exploration of how misinformation was interpreted within treatment decision-making, but several limitations should be considered. The sample was small and purposively selected, so the findings are not intended to estimate the prevalence of misinformation

exposure among adult dental patients. Participants' accounts may have been affected by recall bias, because they reconstructed recent information-seeking and decision-making experiences after the event. Social desirability may also have influenced how participants described trust, self-treatment, antibiotic expectations, or disagreement with dentists. The analysis relied on participants' reported experiences rather than independent observation of consultations or verification of all online content encountered. Transferability may be limited by the study setting, participant characteristics, treatment types, and digital platforms represented in the sample. Because misinformation is shaped by language, platform algorithms, local treatment costs, professional trust, and access to dental care, findings should be interpreted as analytically transferable to similar contexts rather than statistically generalizable.

Trustworthiness was strengthened by linking themes to participant accounts, maintaining a clear connection between the research question and analytic categories, and interpreting findings in relation to treatment context rather than treating misinformation as a uniform exposure. Credibility was supported by presenting participant-level evidence across themes, while transferability was supported through description of treatment decision contexts and information sources. Nevertheless, future studies should provide fuller transcript-based quotation, include more diverse participant groups, examine the dentist–patient consultation directly, and compare how misinformation operates across different socioeconomic, cultural, and clinical settings. Further research should also evaluate whether structured myth-correction tools, chairside communication prompts, or professionally produced digital content improve understanding, trust, and timely dental care.

CONCLUSION

Oral health misinformation influenced adult dental patients' treatment decision-making by interacting with symptom uncertainty, dental anxiety, treatment cost, preference for natural remedies, visual persuasion, peer endorsement, and trust in professional communication. The findings suggest that misinformation was most persuasive when it provided an emotionally or financially acceptable explanation for delaying, modifying, or questioning professional treatment. At the same time, patients were not passive recipients of misleading claims; they compared sources, asked questions, and sometimes revised their beliefs when dentists offered clear, respectful, specific, and transparent explanations. Effective responses should therefore combine myth-sensitive chairside communication, transparent discussion of treatment rationale and cost, accessible written and digital educational materials, and public health content that addresses common misleading claims without dismissing patients' concerns. The study supports interpreting oral health misinformation as a communication, trust, and service-experience issue embedded within dental treatment decision-making rather than solely as a problem of online exposure.

REFERENCES

1. World Health Organization. Global oral health status report: towards universal health coverage for oral health by 2030. Geneva: World Health Organization; 2022.
2. Peres MA, Macpherson LMD, Weyant RJ, Daly B, Venturelli R, Mathur MR, et al. Oral diseases: a global public health challenge. Lancet. 2019;394(10194):249-260. doi:10.1016/S0140-6736(19)31146-8.
3. Watt RG, Daly B, Allison P, Macpherson LMD, Venturelli R, Listl S, et al. Ending the neglect of global oral health: time for radical action. Lancet. 2019;394(10194):261-272. doi:10.1016/S0140-6736(19)31144-4.
4. Suarez-Lledo V, Alvarez-Galvez J. Prevalence of health misinformation on social media: systematic review. J Med Internet Res. 2021;23(1):e17187. doi:10.2196/17187.
5. Farrokhi F, Mohebbi SZ, Farrokhi F, Khami MR. Social media as a tool for oral health promotion: a systematic review. PLoS One. 2023;18(12):e0296102. doi:10.1371/journal.pone.0296102.
6. Felgner S, Henschke C, Hartmann M, Schwendicke F. Reasons for choosing dental treatments: a qualitative study. PLoS One. 2022;17(5):e0267656. doi:10.1371/journal.pone.0267656.

7. Al-Khalifa K. The use of Instagram among dental patients in Saudi Arabia. Acta Inform Med. 2024;32(1):54-60. doi:10.5455/aim.2024.32.54-60.

8. Alhomsi A, AlSuleiman A, Alhajji M, Alzahrani A. Exploring how people interact with dental misinformation on social media. Cureus. 2024;16:e56625. doi:10.7759/cureus.56625.

9. Jung M, Seo M. YouTube videos about root canal treatment. BMC Oral Health. 2022;22:523. doi:10.1186/s12903-022-02540-4.

10. Esmaeilzadeh F, Mohammadi TM, Hajizamani A, Moradi G. Content analysis of fluoride-related posts on Instagram. BMC Oral Health. 2024;24:1332. doi:10.1186/s12903-024-04913-3.

11. Gestre RD, Aboulhosn S, Cheng B, Sheats R. Assessing #dentist content on TikTok. J Calif Dent Assoc. 2024;52(1):2362825. doi:10.1080/19424396.2024.2362825.

12. Al-Khalifa KS, AlShehri A, AlJasser R. Instagram impact on dental consumers: toothpaste hashtags. Front Oral Health. 2025;5:1420500. doi:10.3389/froh.2024.1420500.

13. BinHamdan RH, Alghamdi A, Alshahrani I, Almutairi A. Social media use and oral health-related misconceptions. JMIR Form Res. 2025;9:e70071. doi:10.2196/70071.

14. Rasheed IB, Al-Batayneh OB, Al-Rousan M, Alomari Q. First insight into oral health misinformation in Jordan. PLoS One. 2025;20(6):e0325513. doi:10.1371/journal.pone.0325513.

15. Riyaz MM, Khanagar SB, Al-Ehaideb A, Vishwanathaiah S. Oral health misinformation on YouTube. J Pharm Bioallied Sci. 2024;16 Suppl:S1038. doi:10.4103/jpbs.jpbs_1038_24.

16. Basch CH, MacLean SA, Romero RA, Ethan D. Assessment of fluoride related posts on Instagram. Health Promot Perspect. 2019;9(1):85-88. doi:10.15171/hpp.2019.11.

17. Wang Y, McKee M, Torbica A, Stuckler D. Systematic literature review on the spread of health-related misinformation on social media. Soc Sci Med. 2019;240:112552. doi:10.1016/j.socscimed.2019.112552.

18. Swire-Thompson B, Lazer D. Public health and online misinformation: challenges and recommendations. Annu Rev Public Health. 2020;41:433-451. doi:10.1146/annurev-publhealth-040119-094127.

19. Vraga EK, Bode L. Defining misinformation and understanding its bounded nature: using expertise and evidence for describing misinformation. Polit Commun. 2020;37(1):136-144. doi:10.1080/10584609.2020.1716500.

20. Ecker UKH, Lewandowsky S, Cook J, Schmid P, Fazio LK, Brashier N, et al. The psychological drivers of misinformation belief and its resistance to correction. Nat Rev Psychol. 2022;1:13-29. doi:10.1038/s44159-021-00006-y.

21. Pennycook G, Rand DG. The psychology of fake news. Trends Cogn Sci. 2021;25(5):388-402. doi:10.1016/j.tics.2021.02.007.

22. Creswell JW, Poth CN. Qualitative inquiry and research design: choosing among five approaches. 4th ed. Thousand Oaks: Sage; 2018.

23. Kallio H, Pietila AM, Johnson M, Kangasniemi M. Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. J Adv Nurs. 2016;72(12):2954-2965. doi:10.1111/jan.13031.

24. Braun V, Clarke V. Thematic analysis: a practical guide. London: Sage; 2021.

25. Nowell LS, Norris JM, White DE, Moules NJ. Thematic analysis: striving to meet the trustworthiness criteria. Int J Qual Methods. 2017;16(1):1609406917733847. doi:10.1177/1609406917733847.

26. Guest G, Namey E, Chen M. A simple method to assess and report thematic saturation in qualitative research. PLoS One. 2020;15(5):e0232076. doi:10.1371/journal.pone.0232076.

27. Hayer N, Binnie VI, Clarkson JE, Bonetti D. General dental practitioners' perceptions of shared decision-making. Br Dent J. 2022;232:645-650. doi:10.1038/s41415-022-3980-9.

28. Chambers DW. Introducing shared decision making to dentistry. J Calif Dent Assoc. 2025;53(1):2460676. doi:10.1080/19424396.2025.2460676.

29. Mishu MP, Faisal MR, Macnamara A, Sabbah W. Barriers and facilitators for oral health service use among adults: a systematic review. Int J Environ Res Public Health. 2022;19(7):4344. doi:10.3390/ijerph19074344.

30. FDI World Dental Federation. Vision 2030: delivering optimal oral health for all. Geneva: FDI World Dental Federation; 2021.