

Patient-Centred Prosthodontic Care: Bridging the Gap Between Clinical Ideals and Patient Realities

Chinonso Happiness IRUBA^{1*}, Kennedy Oghenenyore EJETA², Stephen Oghenekowhoro EYAREFE³, & Augustus Chisom ENYERIBE⁴

^{1,3,4}Department of Dental Technology, School of Health Technology, Federal University of Technology Owerri (FUTO), Imo State, Nigeria

²Department of Biomedical Engineering and Technology, School of Engineering and Engineering Technology, Federal University of Technology Owerri, Imo State, Nigeria

***Corresponding Author:** Chinonso Happiness Iruba. Department of Dental Technology, School of Health Technology, Federal University of Technology Owerri (FUTO), Imo State, Nigeria.

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Abstract

Patient-centred care has emerged as a foundational paradigm in contemporary prosthodontics, signifying a decisive shift from clinician-driven treatment approaches towards collaborative models that prioritise patient values, preferences, and quality-of-life outcomes. This review examines the evolving landscape of patient-centred prosthodontic care, analysing persistent disparities between clinical ideals and patient realities. Through synthesis of contemporary literature, the paper addresses key themes including shared decision-making (SDM), patient expectations management, oral health-related quality of life (OHRQoL), economic barriers, psychological factors, digital workflow integration, interprofessional collaboration, and healthcare system determinants. Evidence reveals continuing gaps between evidence-based clinical standards and patients' lived experiences, shaped by socioeconomic constraints, limited health literacy, psychological burdens, and systemic healthcare access barriers. A range of strategies for bridging these gaps is proposed, encompassing enhanced communication protocols, individualised treatment planning, integration of patient-reported outcome measures (PROMs), collaborative care models, and technology-enhanced patient engagement. Future directions including precision prosthodontics, value-based care, and patient empowerment frameworks are examined alongside critical ethical considerations of justice, autonomy, and truth-telling. The findings underscore that technical excellence alone is insufficient; meaningful patient-centred prosthodontic care demands sustained commitment to understanding and responding to the full complexity of patients' lives.

Keywords: Patient-Centred Care, Prosthodontics, Shared Decision-Making, Oral Health-Related Quality of Life, Patient-Reported Outcomes, Dental Technology, Digital Workflow, Health Equity.

Introduction

Prosthodontics, as the dental specialty dedicated to the restoration and replacement of missing teeth and oral structures, occupies a unique intersection of functional rehabilitation, aesthetic enhancement, and psychological well-being [1]. Contemporary practice has witnessed a paradigm shift from purely technical, disease-focused approaches towards holistic, patient-centred care models that acknowledge the complex interplay between clinical outcomes and patient-reported experiences [2]. Pa-

tient-centred care, defined as healthcare that is respectful of and responsive to individual patient preferences, needs, and values has been identified by the Institute of Medicine as one of six fundamental domains of healthcare quality [3]. In prosthodontics, this approach requires clinicians to navigate between evidence-based clinical ideals, such as optimal implant positioning and biomechanically sound restorations, and the multifaceted realities patients face, including financial constraints, time limitations, psychological concerns, and personal aesthetic prefer-

ences [4].

Despite growing recognition of patient-centred care's importance, significant gaps persist between what prosthodontic care ideally should provide and what patients actually experience. These manifest as miscommunication about treatment expectations, disparities in access to care, misalignment between clinical success metrics and patient satisfaction, and insufficient attention to psychosocial factors [5]. This review comprehensively examines patient-centred prosthodontic care, identifying key gaps and proposing evidence-based strategies to bridge them.

Theoretical Foundations of Patient-Centred Prosthodontic Care

Defining Patient-Centred Care in Prosthodontics

Patient-centred care in prosthodontics extends beyond technical proficiency to encompass a holistic understanding of patients as individuals with unique values, circumstances, and goals. Treatment success cannot be measured solely by clinical parameters such as implant survival rates or prosthesis longevity, but must also account for patient-reported outcome measures (PROMs) including satisfaction, quality of life, and functional capacity. Core elements include respect for patient preferences, care coordination, patient education, emotional support, and appropriate involvement of family [6].

The Biopsychosocial Framework

Contemporary patient-centred prosthodontics operates within a biopsychosocial framework recognising interconnected biological, psychological, and social dimensions of oral health. Psychological factors including patient expectations, dental anxiety, and body image concerns significantly influence prosthodontic outcomes and satisfaction, often more powerfully than purely clinical variables. Social determinants such as income, education, and geographic location create substantial disparities in both access to and outcomes of prosthodontic care [7].

Shared Decision-Making

Shared decision-making (SDM) represents a cornerstone of patient-centred prosthodontic care, involving a collaborative process wherein clinicians and patients jointly make treatment decisions based on clinical evidence and patient preferences. In a specialty where multiple options frequently exist for similar clinical presentations, removable dentures versus implant-supported prostheses, for example SDM is particularly salient. Research indicates that SDM improves treatment satisfaction, adherence, and patient empowerment, though implementation remains inconsistent in clinical practice.

Clinical Ideals in Prosthodontic Care

Evidence-Based Treatment Standards

Evidence-based prosthodontics establishes clinical ideals grounded in rigorous research demonstrating optimal treatment approaches, materials, and techniques. For implant-supported prostheses, ideals include adequate bone volume for ideal implant positioning, maintenance of biologic width, and prosthetic designs that facilitate hygiene [8]. For removable prosthodon-

tics, principles of balanced occlusion, appropriate vertical dimension, and adequate retention and stability guide care [9]. These standards are frequently validated in controlled research settings that may not fully reflect real-world clinical complexity.

Quality Metrics and Success Criteria

Traditional prosthodontic success criteria — implant survival rates, prosthesis longevity, absence of peri-implantitis — provide incomplete pictures of treatment success from patients' perspectives. The literature increasingly recognises PROMs that capture assessments of oral health-related quality of life (OHRQoL), aesthetic satisfaction, perceived chewing ability, and psychosocial impact. Research reveals that clinician-assessed outcomes and patient-reported outcomes do not always correlate, affirming the necessity of incorporating both perspectives.

Patient Realities: Barriers and Challenges

Economic Constraints and Access to Care

Financial barriers represent one of the most significant gaps between clinical ideals and patient realities. Prosthodontic treatment particularly implant-based rehabilitation involves substantial costs that frequently exceed patients' financial capacity. Socioeconomic status strongly predicts access to prosthodontic care, with lower-income populations experiencing disproportionately higher rates of edentulism while having reduced access to advanced solutions [10]. Insurance coverage limitations further compound these disparities, leaving many patients to opt for conventional complete dentures not by clinical preference but by financial necessity.

Time Constraints and Treatment Duration

The extended duration of comprehensive prosthodontic treatment particularly implant protocols involving extraction healing, osseointegration, and prosthetic fabrication presents practical obstacles for patients with work obligations, caregiving responsibilities, or geographic distance from specialty care. Some patients prioritise treatment speed over clinically optimal approaches. Patient tolerance for provisional restorations varies, and temporal constraints require clinicians to balance ideal protocols with realistic, manageable timelines.

Health Literacy and Understanding

Patient health literacy, the capacity to obtain, process, and understand health information significantly influences prosthodontic care experiences and outcomes. Many patients lack understanding of fundamental prosthodontic concepts such as differences between implant-supported and conventional prostheses, the importance of maintenance protocols, or factors influencing longevity. These knowledge gaps contribute to unrealistic expectations and inadequate prosthesis maintenance. Communication challenges are amplified by the technical complexity of prosthodontic care and clinicians' use of specialised terminology.

Psychological Factors and Dental Anxiety

Dental anxiety affects approximately 10–20% of adults across populations and represents a substantial barrier to prosthodontic care. Anxious patients may postpone necessary treatment,

perceive heightened pain, demonstrate reduced adherence, and report lower satisfaction despite clinically successful outcomes. Tooth loss itself frequently precipitates embarrassment, reduced self-confidence, and social withdrawal; these psychological sequelae may persist post-treatment if aesthetic or functional expectations are unmet. Many prosthodontists lack specific training in managing patients' psychological concerns.

Physical and Medical Limitations

Systemic conditions including diabetes, osteoporosis, immunosuppression, and cardiovascular disease may contraindicate certain prosthodontic procedures or increase complication risks. Age-related factors, reduced manual dexterity, diminished visual acuity, and cognitive decline affect elderly patients' ability to manage complex prosthodontic care, particularly removable prostheses requiring daily maintenance. These medical realities frequently require treatment modifications that fall short of clinical ideals [11].

Expectations and Satisfaction in Prosthodontic Care

Patient Expectations Formation

Patient expectations form through prior dental experiences, social network information, media representations, and professional communication. Considerable heterogeneity exists: some patients hold realistic expectations while others maintain unrealistic beliefs that prosthodontic treatment will restore oral function identical to natural dentition or that prostheses require no maintenance. Factors associated with unrealistic expectations include limited prior prosthodontic experience, lower health literacy, higher dental anxiety, and inadequate clinician–patient communication.

The Expectation–Satisfaction Relationship

Expectation fulfilment strongly predicts patient satisfaction. Patients whose outcomes align with or exceed expectations typically report high satisfaction, whereas those experiencing expectation–outcome gaps report dissatisfaction even when clinical results are objectively excellent. Research on implant-supported prostheses demonstrates that satisfaction correlates more strongly with expectation fulfilment than with objective clinical parameters such as plaque scores or probing depths. These dynamics require clinicians to invest effort in understanding, clarifying, and moderating patient expectations during treatment planning.

Strategies for Expectation Management

Evidence-based approaches include structured pre-treatment counselling explicitly addressing common areas of unrealistic expectation, use of visual aids illustrating realistic outcomes, and balanced discussion of benefits and limitations. Showing realistic rather than idealised case photographs helps calibrate expectations appropriately. Written informed consent processes that outline realistic outcomes, potential complications, and patient maintenance responsibilities further contribute to expectation management.

Quality of Life Considerations

Oral Health-Related Quality of Life

OHRQoL has emerged as a crucial outcome measure, capturing the impact of oral conditions and treatments on patients' daily functioning, psychological well-being, and social interactions. Tooth loss significantly impairs OHRQoL across functional, physical, psychological, and social domains. Implant-supported prostheses generally demonstrate greater OHRQoL improvements than conventional complete dentures, particularly mandibular restorations. However, OHRQoL outcomes depend on patients' baseline psychological status and socioeconomic circumstances beyond prosthodontic treatment itself.

Functional and Psychosocial Outcomes

Patient perception of functional outcomes does not always correlate with objective measurements: some patients report high functional satisfaction despite objectively limited masticatory performance, while others express dissatisfaction despite adequate measured performance. Functional adaptation varies with neuromuscular co-ordination, motivation, previous prosthodontic experience, and psychological resilience. Aesthetic satisfaction similarly depends on both objective quality and patients' aesthetic expectations and cultural backgrounds. Psychosocial benefits — enhanced self-confidence, reduced social anxiety, and improved willingness to engage publicly represent meaningful quality-of-life improvements justifying treatment even where functional limitations persist.

Digital Technology and Patient-Centred Care

Digital Workflow Advantages

Digital technologies including intraoral scanning, CAD/CAM systems, and three-dimensional printing have transformed prosthodontic practice, offering potential advantages for patient-centred care: reduced chair time, elimination of impression discomfort, enhanced predictability, and improved communication through digital visualisation [12]. Intraoral scanning eliminates conventional impression materials that patients with gagging reflexes find intolerable [13]. Digital treatment planning enables patients to preview anticipated outcomes, supporting more informed decisions and expectation alignment [14].

Limitations and Tele Dentistry

Digital workflows require substantial capital investment, potentially exacerbating access disparities in economically disadvantaged settings. Some patient populations particularly elderly or technologically inexperienced individuals may feel alienated by highly digital treatment approaches that reduce direct clinician–patient interaction. Teledentistry applications have expanded post-COVID-19, improving access for patients with mobility limitations or scheduling constraints [15]. However, teledentistry is limited to aspects of care not requiring physical examination, and its adoption requires technological literacy and connectivity that may exclude already vulnerable populations.

Communication and Shared Decision-Making

Communication Challenges

Effective communication forms the foundation of patient-centred prosthodontic care, yet numerous barriers exist: time constraints, technical complexity, disparate health literacy, language

differences, and varying communication preferences. Prosthodontists and patients often have different communication priorities, clinicians focusing on technical details while patients prioritise practical implications for daily life. Power dynamics inherent in clinical relationships may inhibit patients from asking questions, expressing preferences, or admitting confusion.

Implementing SDM and Cultural Competence

Effective SDM involves collaboratively establishing treatment goals, presenting options with balanced risk–benefit information, checking understanding, eliciting patient preferences, and reaching consensus. Decision aids, written materials, videos, or interactive digital tools improve patient knowledge, reduce decisional conflict, and promote value-concordant choices. Cultural competence is equally essential: cultural factors influence health beliefs, treatment preferences, communication styles, and decision-making roles. Clinicians must recognise their own cultural assumptions and develop flexible approaches adaptable to individual patients' cultural contexts.

Education and Workforce Development

Dental and prosthodontic education traditionally emphasises technical skills with less attention to patient-centred care competencies such as communication, SDM, and psychosocial assessment. Competency-based education models that explicitly define patient-centred care outcomes alongside technical skills represent a necessary reform. Simulation-based education using standardised patients allows learners to practise difficult conversations and expectation management in controlled settings before real clinical encounters. Interprofessional collaboration with psychologists, social workers, oral surgeons, and medical colleagues addresses patients' complex multidimensional needs more comprehensively than single-discipline approaches. Continuing education must expand beyond technical updates to include communication skills, cultural competence, and patient-reported outcome assessment.

Healthcare System Factors

Fee-for-service reimbursement models that compensate clinicians based on procedures performed may inadvertently incentivise volume over patient-centredness, and typically do not reimburse the time-intensive activities central to patient-centred care, comprehensive patient education, SDM, expectation management, and psychosocial assessment. Value-based care models that tie compensation to quality metrics and patient outcomes may better align financial incentives with patient-centred principles. Geographic disparities in prosthodontic workforce distribution with prosthodontists concentrated in urban and affluent areas leave rural and underserved communities with limited specialty access.¹¹ Implementing systematic quality measurement using PROMs in prosthodontic practice requires addressing practical challenges of instrument selection, data collection workflow integration, and using results to inform care improvement.

Strategies for Bridging The Gap Enhanced Communication Protocols

Structured communication protocols ensuring consistent coverage of key topics including treatment goals, expectations, financial considerations, timeline, and patient concerns improve communication quality. Teach-back methods, where clinicians ask patients to explain information in their own words, verify understanding and identify areas requiring clarification. Written materials in plain language, translated for non-English speakers, and decision aids presenting treatment options systematically with balanced information further support comprehension and informed decision-making.

Individualised Treatment Planning

Patient-centred care requires moving beyond standardised protocols to individualised approaches accommodating patients' unique circumstances, including financial resources, time availability, manual dexterity, psychological status, and personal values. For financially constrained patients, phased treatment approaches, consideration of cost-reducing material or technique alternatives, and exploration of financial assistance options transform barriers into solvable problems. For elderly patients with reduced dexterity, simpler prosthetic designs optimising maintainability may be preferred even if more complex alternatives offer theoretical functional advantages.

Integration of Patient-Reported Outcomes

Systematic collection and clinical use of PROMs including the Oral Health Impact Profile (OHIP), condition-specific measures for denture wearers or implant patients, and satisfaction instruments ensures patient perspectives inform treatment evaluation and quality improvement. Electronic data collection through patient portals or tablet devices in clinical settings can facilitate efficient PROM administration. Reviewing individual patient responses, comparing outcomes to benchmarks, and sharing results with patients facilitates discussions about treatment effectiveness and prompts adjustments when outcomes fall short.

Collaborative Care and Technology-Enhanced Engagement

Collaborative care models integrating behavioural health specialists, social workers, patient navigators, and medical physicians address patients' multidimensional needs more comprehensively than single-discipline approaches, particularly for those with dental anxiety, socioeconomic vulnerability, or medical complexity. Digital technologies patient portals, mobile applications, and virtual reality educational tools offer supplementary opportunities for patient engagement and self-management support between appointments. Crucially, technology-enhanced engagement must address digital divide concerns and must serve as an adjunct to, rather than a replacement for, human clinical interaction.

Illustrative Clinical Scenarios

Scenario A: The Elderly Patient with Limited Resources

A 72-year-old edentulous patient on a fixed retirement income presents with ill-fitting complete dentures causing functional limitations and social embarrassment. Clinical ideals would indicate mandibular implant overdentures as the minimum standard of care however, financial constraints and insurance limitations

restrict access to conventional complete dentures. A patient-centred response preserves dignity whilst optimising conventional denture outcomes through meticulous technique, extended try-in appointments, comprehensive patient education, and exploration of alternative financing, reduced-cost care at dental schools, or charitable programmes.

Scenario B: The Anxious Patient with Unrealistic Expectations

A 45-year-old professional seeking implant treatment following periodontal tooth loss expects implants to be 'permanent' and 'identical to real teeth,' and displays significant dental anxiety linked to negative prior experiences. Bridging clinical realities and expectations requires comprehensive pre-treatment counselling addressing longevity limitations, implant maintenance requirements and peri-implantitis risk, aesthetic and tactile differences from natural dentition, and realistic case photographs. Anxiety management, sedation options, and clear communication throughout treatment ensure patient-centredness alongside technical care.

Scenario C: The Medically Complex Patient

An 80-year-old patient with diabetes, osteoporosis, coronary artery disease, and concurrent bisphosphonate and anticoagulant therapy requires extensive prosthodontic rehabilitation. Medical consultation, careful risk-benefit analysis regarding bisphosphonate-related osteonecrosis and bleeding complications, and active patient partnership in decision-making define the patient-centred approach. Alternative approaches removable prosthetics, limited strategic implant placement may better serve this patient than evidence-based protocols derived from healthy younger populations. Treatment success encompasses maintenance of quality of life and minimisation of treatment burden as well as technical outcomes.

Future Directions and Emerging Paradigms

Precision prosthodontics leveraging genetic, biological, behavioural, and environmental data to individualise treatment approaches promises enhanced personalisation, though it raises access equity concerns if sophisticated assessment technologies remain concentrated in well-resourced settings. Value-based prosthodontic care models, which focus on maximising patient-centred outcomes relative to treatment costs through robust outcome measurement and outcome-based reimbursement, could better align financial incentives with patient-centred principles. Patient empowerment and self-management frameworks supported by mobile applications and AI-powered decision tools recognise patients as active partners, though self-management models must be implemented carefully to avoid inappropriately shifting responsibility onto those with limited health literacy or resources. Integrative health approaches situating prosthodontic care within broader systemic health contexts, incorporating nutritional counselling, physical therapy, and psychological support, further reflect the biopsychosocial framework of patient-centred practice.

Ethical Considerations

Ethical principles of justice demand equitable access to beneficial prosthodontic treatments. The concentration of advanced prosthodontic care among affluent populations, whilst lower-income groups experience higher edentulism rates and limited treatment options, raises serious justice concerns. Individual prosthodontists face ethical obligations to explore affordable alternatives and avoid stigmatising patients unable to access ideal care. Authentic informed consent extends beyond legal documentation to genuine patient understanding requiring comprehensive, unbiased information, verification of comprehension, and respect for patient decisions even when they diverge from clinical recommendations. Ethical truth-telling requires honest acknowledgement of outcome uncertainty and clinical limitations, balanced with realistic hope and patient support.

Conclusion

Patient-centred prosthodontic care represents a fundamental evolution in the specialty's approach to treatment, moving from technical, disease-focused models towards holistic approaches that prioritise patient values, experiences, and quality of life. This review has examined multifaceted gaps between clinical ideals and patient realities, economic constraints, time limitations, health literacy variations, psychological factors, and systemic healthcare barriers and proposed comprehensive strategies operating at individual, educational, and systems levels. Technical excellence, whilst necessary, is insufficient for patient-centred care without concurrent attention to patient understanding, preferences, and psychosocial needs. Educational reforms incorporating patient-centred care competencies, interprofessional training, and culturally sensitive communication prepare future prosthodontists for this complex practice environment. At the systems level, addressing access disparities through expanded insurance coverage, workforce development, and value-based reimbursement can create structural supports for patient-centred care.

Ultimately, bridging the gap between clinical ideals and patient realities requires humility about the limitations of technical solutions, genuine respect for patient expertise about their own lives, and a sustained commitment to partnership models where clinicians and patients collaborate as equals in pursuit of meaningful health outcomes. Prosthodontic treatment success encompasses not only implant survival rates but patients' abilities to eat, speak, smile, and engage socially with comfort and confidence reflecting a definition of care that is both scientifically grounded and meaningfully responsive to the diverse individuals the specialty serves.

Limitations of the Study

This review draws exclusively on published English-language literature and may therefore not fully reflect evidence from non-English or grey literature sources. The heterogeneous nature of the studies reviewed spanning different patient populations, healthcare systems, and prosthodontic modalities limits direct comparability of findings. No formal systematic search protocol with predefined inclusion/exclusion criteria was employed; the synthesis is therefore narrative and subject to selec-

tion bias inherent in scoping reviews. Future research employing systematic methodologies and including data from low- and middle-income country contexts particularly sub-Saharan Africa where prosthodontic access disparities are profound would substantially strengthen the evidence base for patient-centred prosthodontic practice.

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Conflict of Interest

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Author Contributions

Iruba Chinonso Happiness: Conceptualisation, writing – original draft, corresponding author. Ejeta Kennedy Oghenenyore: Literature review, methodology review. Eyarefe Oghenekowhoro Stephen: Supervision, critical review, editing. Enyeribe Chisom Augustus: Literature support, review and editing. All authors read and approved the final manuscript.

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