Universal Library of Medical and Health Sciences Research Article

ISSN: 3064-6545 | Volume 4, Issue 3

Open Access | PP: 46-51

DOI: https://doi.org/10.70315/uloap.ulmhs.2026.0403002

Factors Influencing the Completion Rate of Comprehensive Dental Treatment Plans in Adult Patients

Sofya Katenova

General Dental Practitioner, Saint Petersburg, Russia.
ORCID ID: 0009-0001-0383-1964

Abstract

Adult patients complete comprehensive dental treatment plans when clinical need becomes understandable, affordable, tolerable, and linked to follow-up. This analytical review examines factors that interrupt or support completion after diagnosis: understanding of alternatives, perceived consequences of delay, financial pressure, dental fear, trust in the clinician, missed appointments, and post-treatment contact. The source base includes 10 peer-reviewed publications from 2021 to 2026 on dental decision-making, access barriers, oral health literacy, communication, patient experience, no-shows, anxiety, affordability, and compliance with instructions. Comparative source analysis, source synthesis, typologization, and conceptual modelling were used to connect published evidence with a practice-oriented model for routine adult dentistry. Staged alternatives, scenario-based cost explanation, anxiety-sensitive communication, next-day contact, and preventive recall form the proposed clinical logic for improving treatment continuity without claiming empirical clinic-level results or measured gains from any single dental practice.

Keywords: *Comprehensive Dental Treatment, Adult Patients, Treatment Completion, Dental Adherence, Oral Health Literacy.*

INTRODUCTION

Comprehensive dental treatment in adult patients usually unfolds through several visits. A plan may include caries treatment, endodontic care, periodontal treatment, professional hygiene, restorations, extractions, prosthetic stages, and preventive recall. The clinician organises these procedures through diagnosis, sequence, and prognosis. The patient enters the same sequence with concerns about time, pain, cost, family obligations, work schedules, and prior dental experience.

Dental disease often progresses before acute pain appears. This feature creates a practical gap between clinical urgency and patient urgency. A patient may accept the diagnosis during consultation and still postpone the next stage because the tooth does not hurt, the estimate seems high, or the proposed sequence feels difficult to follow. Incomplete treatment increases the likelihood of more invasive procedures as the disease progresses. It disrupts clinic scheduling through cancellations, missed appointments, and weakened recall.

The article aims to identify factors influencing the completion of comprehensive dental treatment plans in adult patients and to develop an analytical model for treatment continuity in general dental practice.

The first objective is to examine how patient understanding of alternatives, consequences, and oral health information shapes treatment acceptance and continuation. The second objective is to analyse financial, emotional, and access-related barriers that interrupt the pathway from diagnosis to completed care. The third objective is to develop a practice-oriented logic that links staged treatment planning, follow-up contact, and preventive return.

The novelty of the article lies in interpreting completion rate as a pathway outcome. Dental publications often treat treatment acceptance, appointment attendance, anxiety, affordability, and communication as separate questions. A completion-oriented view connects these questions within a single patient trajectory, from diagnosis and consent through staged procedures, symptom control, and recall.

The working hypothesis states that adult patients complete comprehensive dental treatment plans more often when clinicians present staged alternatives, explain clinical and financial consequences of delay, address fear during the first contact, and maintain planned communication after procedures.

Citation: Sofya Katenova, "Factors Influencing the Completion Rate of Comprehensive Dental Treatment Plans in Adult Patients", Universal Library of Medical and Health Sciences, 2026; 4(3): 46-51. DOI: https://doi.org/10.70315/uloap.ulmhs.2026.0403002.

MATERIALS AND METHODS

The review corpus includes peer-reviewed publications from 2021 to 2026. The screening retained recent studies and reviews that address adult dental decision-making, affordability, access to care, dental fear, oral health literacy, dentist-patient communication, patient experience, missed appointments, and post-operative compliance. The source map covers three groups of questions: patient understanding and treatment choice [5, 8], financial, emotional, and access barriers to continuation [2, 4, 10], and communication, trust, no-show risk, patient experience, and follow-up [1, 3, 6, 7, 9].

Comparative analysis connected findings across sources with different designs. Source analysis separated evidence on decision-making, affordability, fear, communication, and follow-up; typologization grouped factors by their position in the treatment pathway. Conceptual synthesis joined these groups into a model of completion. Analytical generalisation converted the model into practical proposals for routine adult dental care.

RESULTS

Completion begins before the patient signs a treatment plan or books the first procedure. A systematic review of dental treatment decision-making reports that patients choose for or against treatment under the influence of financial resources, preferences, external circumstances, treatment type, and information received during clinical communication [5]. This evidence changes the interpretation of non-completion. A patient who interrupts care may respond to uncertainty, cost exposure, fear, or competing obligations, even when the diagnosis is clinically justified.

Patient understanding forms the first completion factor. Adults need to recognise the disease process the dentist has identified, which procedures are included in the plan, which alternatives exist, and what delays mean in biological terms. A scoping review on health literacy and dental service utilisation reports that adults' ability to understand health information and navigate care affects dental service use [8]. In comprehensive treatment, this ability influences the movement between stages. A patient may hear "caries," "pulpitis," "root canal," or "periodontal pocket" without understanding why one untreated lesion can change the cost and invasiveness of later care.

Communication research gives this factor a clinical form. A review of dentist-patient communication recommends clear language, empathy, time for questions, visual aids, feedback, and accessible communication channels [6]. During comprehensive treatment, the patient must recommit several times. Consultation, first procedure, post-treatment care, second stage, restoration, and recall require repeated understanding. Weak explanation at the first visit may remain hidden until the patient cancels the next appointment or chooses emergency-only care.

Treatment alternatives deserve separate attention. A systematic review on treatment decision-making reports that patients weigh perceived need, cost, expected benefit, access, and personal preference [5]. One rigid plan can make the patient feel cornered, especially when fear or cost already creates hesitation. Several clinically acceptable options give the patient a structured decision space. The dentist retains professional responsibility by marking the limits of safe postponement, the likely consequences of delay, and the conditions under which a conservative option may no longer remain available.

Financial pressure turns understanding into a practical decision. A 2025 cross-sectional study using NHANES 2015 to 2018 data reported that 14.17% of participants could not afford dental treatment and that inability to afford care was associated with higher ratios of untreated dental decay and other adverse oral outcomes [2]. The completion problem appears at exactly this point. A patient may understand the diagnosis and still delay treatment when the fee estimate arrives as a single figure detached from alternatives. A scenario-based explanation provides the patient with a clearer comparison: early restoration, treatment after pulpal involvement, extraction, replacement, and preventive maintenance.

Access barriers widen the gap between diagnosis and completed care. A cross-sectional analysis of the Canadian Longitudinal Study on Ageing examined socioeconomic, psychosocial, and physical barriers to oral care among older Canadians [4]. The study concerns access, yet its findings help explain why adults discontinue multi-visit dental care after initial agreement. Repeated visits require transport, flexible time, payment capacity, and physical ability to return. A comprehensive plan that ignores these conditions may fail after the first accepted stage.

Dental fear changes the meaning of delay. A systematic review and meta-analysis of adult dental fear estimated that fear affects a substantial proportion of the adult population and linked fear to avoidance and poorer oral health [10]. In a comprehensive plan, fear rarely appears as a formal refusal. It may appear as silence, postponement, preference for extraction, reluctance to schedule endodontic stages, or repeated cancellation. The clinician needs to identify these signals early. A first stage that gives the patient control, clear anaesthesia explanation, and predictable stopping points can lower the risk of silent withdrawal.

The dentist-patient relationship then becomes a condition of continuity. A scoping review of determinants of dentist-patient relationships identifies communication and trust among the most frequent determinants of the relationship construct [3]. For comprehensive treatment, trust develops through repeated encounters. The patient evaluates whether the clinician explains the plan, respects discomfort,

responds after procedures, maintains a clear sequence, and avoids surprise costs. Trust here is practical; it reduces the perceived risk of continuing treatment.

A nationwide survey on patient experience in oral health care examined dental visit habits and factors contributing to a positive experience [7]. Its relevance for treatment completion lies in the connection between experience and return. Adult patients who perceive communication as honest, staff behaviour as respectful, and cost explanation as clear have fewer reasons to disengage after the first visit. The technical plan still matters, but the patient judges the plan through the clinical encounter that delivers it.

Missed appointments translate these patient-level pressures into clinic-level loss of continuity. A machine-learning study on dental no-shows used appointment history and patient information to predict missed appointments, reporting model performance metrics [1]. The value of this source for an analytical review lies in recognising no-show behaviour as a pattern. The patient who misses a visit may have already moved away from the plan because the next stage felt unclear, unaffordable, frightening, or low priority.

Post-treatment contact closes one of the pathway's weakest points. A cross-sectional study on patient understanding and compliance with post-operative instructions found problems with comprehension of instructions, follow-up attendance, and reasons for missed follow-up, including forgetfulness and economic issues [9]. After extractions, endodontic procedures, periodontal treatment, or deep caries treatment, normal discomfort may create doubt. A next-day call can clarify symptoms, repeat recommendations, and confirm the next step. It changes the patient's memory of care.

Figure 1 organises the pathway from diagnosis to completed care. The figure adapts evidence on decision-making, no-shows, communication, and follow-up compliance.

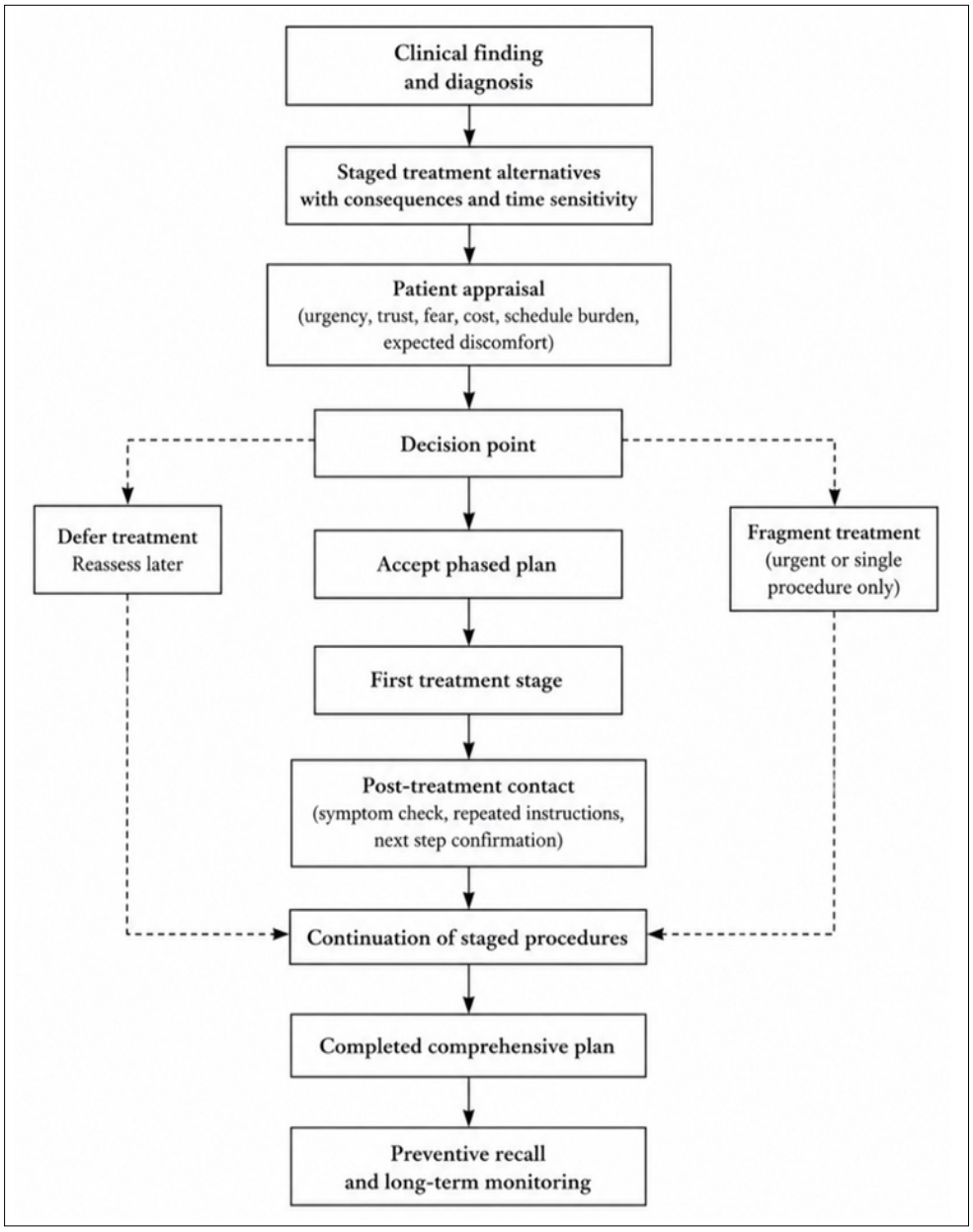

Figure 1. Patient pathway from diagnosis to a completed comprehensive dental treatment plan (adapted from [1, 5, 6, 9])

The sources converge around one question: how the patient converts a clinical recommendation into sustained action. Decision-making and health literacy sources describe the cognitive side of this conversion [5, 8]. Communication research explains how dentists can make the plan legible through language, questions, and feedback [6]. Affordability research adds the economic layer as the patient's ability to pay alters the weight of even a well-explained recommendation [2]. Together, these sources support a practical conclusion. A plan becomes easier to complete when the patient sees the next stage, the reason for that stage, and the likely consequence of postponement.

A second comparison concerns fear and trust. Research on dental fear links anxiety with avoidance [10]. The dentist-patient relationship review identifies communication and trust as recurring determinants of the relationship [3]. Patient experience research connects return-oriented experience with honest communication, respectful service, and cost clarity [7]. Access research adds the external burden of transport, insurance, income, and physical limitations [4]. These sources indicate that treatment completion depends on more than motivation. The patient continues when clinical communication reduces fear, and the practical path back to the clinic remains feasible.

A third comparison concerns attendance after the first procedure. No-show prediction research treats missed visits as behaviour that clinics can anticipate through patterns [1]. Follow-up compliance research shows that patients miss return visits for reasons including forgetfulness, cost, and a lack of understanding of instructions [9]. Communication research gives the remedy a concrete form through plain language, feedback, and accessible channels [6]. In comprehensive care, these findings shift attention from consultation alone to inter-visit management. A plan without follow-up design relies on patient memory at the very moment when discomfort, cost, and daily obligations compete for attention.

The review supports a four-part interpretation of completion rate. First, patients continue when they understand the disease process and the staged plan. Second, patients weigh cost through a time horizon, especially when early treatment prevents later biological loss. Third, fear and prior negative experience interrupt care unless the clinician addresses them during the first stage. Fourth, follow-up contact and recall preserve continuity after the immediate procedure. These mechanisms interact inside the same patient pathway. Cost can heighten fear. A weak explanation can lower trust. A timely call can prevent uncertainty from becoming cancellation.

DISCUSSION

A completion-oriented approach treats the dental plan as a managed pathway from diagnosis to maintenance. The written plan still lists procedures, sequence, and cost, yet the clinician must also manage the patient's interpretation of it. Adult patients usually decide in stages. They first decide whether the problem feels real. Then they decide whether the proposed intervention feels tolerable and affordable. After the first procedure, they decide whether the experience justifies the next visit.

The first practical task is a staged plan presentation. The clinician should prepare several clinically acceptable variants when the case allows choice. One variant may prioritise urgent disease control. Another may combine treatment and restoration across a longer period. A third may describe the full comprehensive plan with preventive recall. Each option should contain limits: how long the patient can wait, which signs require immediate return, and which changes may lead to endodontic treatment, extraction, or prosthetic replacement. The patient receives a choice, while the dentist keeps the clinical boundaries visible.

Financial communication should compare scenarios; adult patients often postpone treatment when the estimate arrives without a timeline. A useful explanation distinguishes between immediate and delayed costs. For example, treating a vital tooth at an early stage can preserve tooth structure and reduce the burden of later intervention. Delay may lead to pulp involvement, root canal treatment, restoration under poorer conditions, or extraction and replacement. The dentist should state the clinical uncertainty in plain terms. The comparison informs the patient without pressure.

Anxiety-sensitive communication should begin before the first procedure. Many adults say that they need time, that the tooth does not hurt, or that they will treat only the urgent tooth. These phrases may signal fear, cost concern, low urgency, or weak trust. The clinician can separate these meanings by asking the patient what makes the next step difficult. Fear requires pain-control explanation, stop signals, shorter first visits, and predictable pauses. Cost concern requires staging and prioritisation. Low-urgency cases require a calm explanation of disease progression.

Post-treatment contact should be included in the plan. A next-day call after extraction, endodontic stages, deep caries treatment, periodontal therapy, or complex restoration gives the clinic a chance to correct misunderstandings before the patient withdraws. The call should cover symptoms, anaesthesia recovery, pain dynamics, home care instructions, and the next appointment. It is clinical continuity by phone.

Preventive recall should be presented as the maintenance phase of the completed plan. In adult patients, completion does not end with the final restoration. The patient leaves the active phase with new risk conditions: restorations need monitoring, periodontal tissues need maintenance, and previous behaviour patterns may return. A six-month hygiene recall or a risk-based schedule should be included in the plan before the patient leaves the clinic. The patient then sees recall as part of the treatment. Table 1 compares the main elements of a completion-oriented model.

Table 1. Completion-oriented implementation logic for adult dental treatment plans

Component	Clinical purpose	Communication action	Patient barrier addressed	Suggested monitoring point
Staged alternatives	Turn diagnosis into a choice pathway	Present two or three safe options with sequence, limits, and expected outcome	Confusion, fear of imposed treatment, passive refusal	Share of plans with documented alternatives
Consequence explanation	Make delay visible in biological terms	Explain what may change after postponement and which signs require return	Low urgency, symptom-based decision-making	Patient can state the main risk in their own words
Financial scenario comparison	Link timing with future cost exposure	Compare early treatment with the likely cost after complication	Price shock, postponed decision, selective urgent care	Share of plans with written cost scenarios
Anxiety-sensitive first stage	Make the first procedure tolerable	Use stop signals, anaesthesia explanation, pauses, and shorter entry visits	Fear, previous negative experience, loss of control	Cancellation rate before the second visit
Post-treatment call	Keep the patient inside the plan after discomfort	Call the next day, check symptoms, repeat recommendations, confirm next step	Uncertainty, forgetfulness, and misinterpretation of pain	Rate of reached patients and next-stage booking
Preventive recall	Preserve the completed result	Schedule a hygiene or check-up before the patient leaves	Loss of contact after acute care	Six-month recall attendance rate

Each stage removes a different obstacle. Alternatives reduce resistance at entry. Consequence explanation gives the patient a reason to act before pain escalates. Financial comparison lowers uncertainty. Anxiety-sensitive care protects the transition from consent to procedure. Follow-up contact prevents normal post-treatment sensations from becoming distrust. Recall turns the completed plan into monitored care.

Measurement protects the model from turning into a set of good intentions. A dental clinic should distinguish plan acceptance, treatment start, stage continuation, completion, interruption, follow-up contact, and recall. These indicators capture different points of failure. A patient who refuses the plan during consultation differs from a patient who starts treatment and cancels the second stage. A patient who completes urgent care and disappears before hygiene differs from a patient who interrupts care after an unexpected cost discussion.

Table 2 presents monitoring indicators for clinical and administrative use. The purpose of the table is to separate patient movement across the pathway and to indicate which management question each measure answers.

Table 2. Monitoring indicators for comprehensive dental treatment plan completion

Indicator	What it measures	Suggested calculation	Interpretation for practice
Plan acceptance rate	Initial agreement after consultation	Accepted comprehensive plans are divided by the presented plans	Measures clarity, trust, perceived value, and affordability at entry
Treatment start rate	Movement from agreement to the first procedure	Patients who begin stage one are divided by accepted plans	Detects hesitation between consent and action
Stage continuation rate	Persistence across planned visits	Patients who attend the next planned stage are divided into those who have completed the prior stage	Locates where the plan begins to fragment
Completion rate	Full execution of planned clinical stages	Completed plans are divided by started plans within a defined period	Shows whether the plan remains realistic after treatment starts
Unplanned interruption rate	Breaks caused by cancellation, no-show, or refusal	Interrupted plans divided by started plans	Signals follow-up weakness, fear, cost pressure, or low perceived urgency
Post-treatment contact rate	Delivery of follow-up support	Reached patients divided by patients selected for next-day contact	Shows whether the clinic follows its own contact protocol
Recall conversion rate	Transition from active treatment to prevention	Patients attending recall divided by completed plans	Measures whether completed treatment leads to maintenance

Low acceptance points to a weak plan explanation, a price shock, or a lack of trust. Low start rate points to hesitation after consent. Low continuation points to poor first-stage experience, fear, scheduling burden, or unclear next steps. Weak recall conversion points to a treatment culture that stops at acute care. A clinic can then change one part of the

pathway instead of blaming the patient as "non-compliant."

The model has ethical boundaries. Clinicians should use scenario explanation to clarify consequences. The patient has the right to refuse, pause, or choose a narrower plan. The dentist's task is to prevent avoidable refusal caused by unclear language, hidden cost logic, unmanaged fear, or lack of contact after treatment. This distinction protects informed consent while improving continuity.

The model fits general dental practice because it does not require proprietary software or experimental intervention. A clinic can implement it through a written plan template, a short risk explanation script, a cost-scenario field, anxiety markers in the chart, a next-day call list, and recall tracking. The strongest effect should appear where patients often begin treatment and then drop out before restorative completion or preventive maintenance. Empirical testing would require clinic-level data, but the analytical logic can guide documentation before such data exist.

CONCLUSION

Adult patients complete comprehensive dental treatment plans more often when they understand the alternatives, stages, and consequences of delaying treatment. Oral health literacy and dentist-patient communication influence acceptance and continuation, as the patient must connect a clinical recommendation to symptoms, future risk, and the sequence of visits.

Financial pressure, dental fear, access barriers, and previous negative experience interrupt the pathway from diagnosis to completed care. These factors rarely act alone. A high estimate may strengthen avoidance, fear may lead to missed appointments, and an unclear explanation may weaken trust. Completion rate reflects patients' understanding, perceptions of affordability, emotional tolerance, and service continuity.

The proposed model supports the working hypothesis. Staged alternatives, financial-scenario comparison, anxiety-sensitive first contact, next-day follow-up, and preventive recall create a pathway that keeps adult patients connected to the plan after the initial decision.

REFERENCES

1. Alabdulkarim, Y., Almukaynizi, M., & Alameer, A. (2022). Predicting no-shows for dental appointments. *PeerJ Computer Science,* 8, e1147. https://doi.org/10.7717/peerj-cs.1147
2. Alkhabbaz, S. S., Altoorah, D. D., Al-Kandari, A. A., Al-Daraan, H. H., Al-Mutairi, M. M., AlSulimmani, W. W., Alqedari, H. H., Alshanbari, M. M., & Alhazmi, H. A. H. A. (2025). Dental treatment affordability and oral outcomes among U.S. adults: NHANES 2015–2018. *BMC Oral Health,* 25, Article 1304. https://doi.org/10.1186/s12903-025-06685-w
3. Choi, H., Kim, R. J.-Y., Park, S.-Y., Lee, J., & Song, Y. (2024). Determinants of dentist-patient relationships: A scoping review. *International Dental Journal,* 74(5), 1078–1088. https://doi.org/10.1016/j.identj.2024.02.015
4. De Rubeis, V., Jiang, Y., de Groh, M., Dufour, L., Bronsard, A., Morrison, H., & Walker Bassim, C. (2023). Barriers to oral care: A cross-sectional analysis of the Canadian Longitudinal Study on Aging. *BMC Oral Health,* 23, Article 294. https://doi.org/10.1186/s12903-023-02967-3
5. Felgner, S., Handrock, J.-F., Schroll, C. C., Schütte, F., & Henschke, C. (2026). Decision-making regarding dental treatments: What factors matter from patients' perspective? A systematic review. *BMC Oral Health,* 26, Article 289. https://doi.org/10.1186/s12903-025-07032-9
6. Ho, J. C. Y., Chai, H. H., Lo, E. C. M., Huang, M. Z., & Chu, C. H. (2024). Strategies for effective dentist-patient communication: A literature review. *Patient Preference and Adherence,* 18, 1385–1394. https://doi.org/10.2147/PPA.S465221
7. Levin, L., Khehra, A., Kowal, S., & Romer, K. (2025). Patient experience and expectations in oral health care: A nationwide survey. *International Dental Journal,* 75(2), 1003–1010. https://doi.org/10.1016/j.identj.2024.10.011
8. Lu, X., Nanjappa, S., Wijesiri, H. G. T. I. D., & Yuan, S. (2025). The role of health literacy in adults' dental service utilisation: A scoping review. *Community Dentistry and Oral Epidemiology*. https://doi.org/10.1111/cdoe.70037
9. Mesfin, K., & Abaynew, Y. (2025). Patient understanding and compliance with post-operative instructions and follow-up at Yekatit 12 Hospital, Addis Ababa, Ethiopia. *BMC Oral Health,* 25, Article 499. https://doi.org/10.1186/s12903-025-05859-w
10. Silveira, E. R., Cademartori, M. G., Schuch, H. S., Armfield, J. A., & Demarco, F. F. (2021). Estimated prevalence of dental fear in adults: A systematic review and meta-analysis. *Journal of Dentistry,* 108, Article 103632. https://doi.org/10.1016/j.jdent.2021.103632