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A Primary-Care Clinical Workflow for Temporomandibular Disorder–Related Orofacial Pain: An Evidence-Informed Scoping Review

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ADMINISTRATIVE INFORMATION

Support - King Khalid University.

Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 18 January 2026 and was last updated on 18 January 2026.

INTRODUCTION

Review question / Objective This scoping review aims to identify and synthesize evidence-supported diagnostic, management, and escalation elements that can be operationalised into a clinically feasible decision-support workflow for temporomandibular disorder–related orofacial pain in primary-care settings.

Background Temporomandibular disorders (TMDs) are among the most common non-odontogenic causes of orofacial pain encountered in primary care. However, symptom overlap with otologic, neurologic, sinus, and dental conditions frequently leads to diagnostic uncertainty, delayed initiation of conservative care, unnecessary imaging, and premature specialist referral. Although validated diagnostic frameworks and evidence-based conservative treatments exist, their integration into time-limited primary-care consultations remains inconsistent.

Rationale Current clinical guidance emphasises conservative, reversible management for painful TMDs but provides limited operational detail for primary-care implementation. In the absence of structured workflows, clinicians may struggle with diagnostic sequencing, reassessment timing, and escalation decisions. This review addresses this gap by translating heterogeneous evidence into a pragmatic, time-efficient framework designed for routine primary-care use.

METHODS

Strategy of data synthesis A PRISMA-compliant structured evidence synthesis was conducted using a hybrid approach that combined systematic literature identification with narrative thematic integration. Evidence was grouped into predefined clinical domains reflecting common diagnostic and workflow decision points and mapped to graded evidence levels. Quantitative pooling was not pursued due to heterogeneity across study designs and outcomes.

Eligibility criteria Studies were eligible for inclusion if they addressed one or more of the following in relation to TMD-related orofacial pain: diagnostic assessment, conservative management, escalation strategies, or implementation of care in clinical practice. Eligible study designs included systematic reviews, randomised or controlled clinical trials, diagnostic validation studies, cohort studies, clinical guidelines, and narrative reviews with implementation relevance.

Studies were excluded if they consisted solely of isolated case reports, imaging-only or laboratory-based investigations, specialist-exclusive surgical or orthodontic interventions, or studies lacking applicability to primary-care settings.

Source of evidence screening and selection Study selection followed PRISMA guidance and was conducted in two stages. Titles and abstracts were screened for relevance, followed by full-text review of potentially eligible studies. After screening and eligibility assessment, 47 studies were included in the final evidence synthesis, including a small number of prespecified high-relevance studies addressing safety-critical and workflow-defining domains.

Data management Data were charted using a structured extraction framework capturing diagnostic features, mechanistic pain characteristics, conservative treatment components, pharmacologic strategies, reassessment intervals, response thresholds, imaging indications, and referral criteria. Extracted data were organised into thematic domains reflecting common primary-care decision points.

Reporting results / Analysis of the evidence The evidence synthesis supported development of a structured, seven-node primary-care clinical workflow encompassing red-flag triage, otologic differentiation, mechanistic assessment of TMD-related pain, early multimodal conservative management, pharmacologic tiering, response-based reassessment, and imaging and referral pathways. Clinically meaningful response thresholds (≥30% and ≥50% improvement in pain or function) were incorporated to guide standardised reassessment and escalation decisions. The framework was designed for application within a typical 10–15-minute primary-care consultation.

Presentation of the results Results are presented through structured narrative synthesis, evidence-mapping tables, an outcome-based response classification system, and a rapid clinical algorithm supported by practical checklists. A PRISMA flow diagram illustrates the study selection process, and visual workflow tools demonstrate integration of evidence into primary-care decision-making.

Language restriction Included only English-language publications.

Country(ies) involved Saudi Arabia, United Kingdom, India.

Other relevant information The proposed framework is evidence-informed rather than prescriptive and is not intended to replace comprehensive diagnostic criteria. Feasibility assessment was exploratory and based on simulated encounters. Prospective validation, implementation studies, and evaluation of system-level outcomes are identified as future research priorities.

Keywords Temporomandibular disorders; Orofacial pain; Primary health care; Clinical workflow; Clinical decision support; Conservative management; Diagnosis; Referral pathways; Pain management; Evidence-based.

Dissemination plans Findings will be disseminated through peer-reviewed publication, academic conferences, and clinical education initiatives targeting primary-care clinicians. Future research will focus on prospective validation of the framework, evaluation of implementation outcomes, and integration into digital clinical decision-support systems.

Contributions of each author

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