



The use of Patient-Reported Experience Measures in Adults with Obstructive Sleep Apnea: A Systematic Evidence Review

Wollny M¹, Braun M^{2,3}

¹ MedImbursement, Tarmstedt, Germany; ² Department of Pneumology, University Medicine Essen – Ruhlandklinik, West German Lung Center, University Duisburg-Essen, Duisburg, Germany; ³ Faculty of Sleep and Telemedicine, University Medicine Essen – Ruhlandklinik, West German Lung Center, University Duisburg-Essen, Duisburg, Germany



BACKGROUND

Patient-Reported Experience Measures (PREMs) provide an essential perspective on healthcare quality by capturing how patients perceive communication, coordination, and engagement throughout their care journey.

While PREMs are increasingly recognized across chronic disease management, their use in sleep-medicine research - particularly for obstructive sleep apnea (OSA) - remains largely underdeveloped. To date, OSA research has predominantly focused on Patient-Reported Outcome Measures (PROMs), such as symptom improvement or treatment adherence, whereas the experiential dimensions of care delivery have received little systematic attention (Fig. 1).

This review therefore aims to evaluate the current landscape of PREM application in adult OSA studies, assess the methodological robustness of available instruments, and determine their alignment with ISPOR's conceptual definition of PREMs.

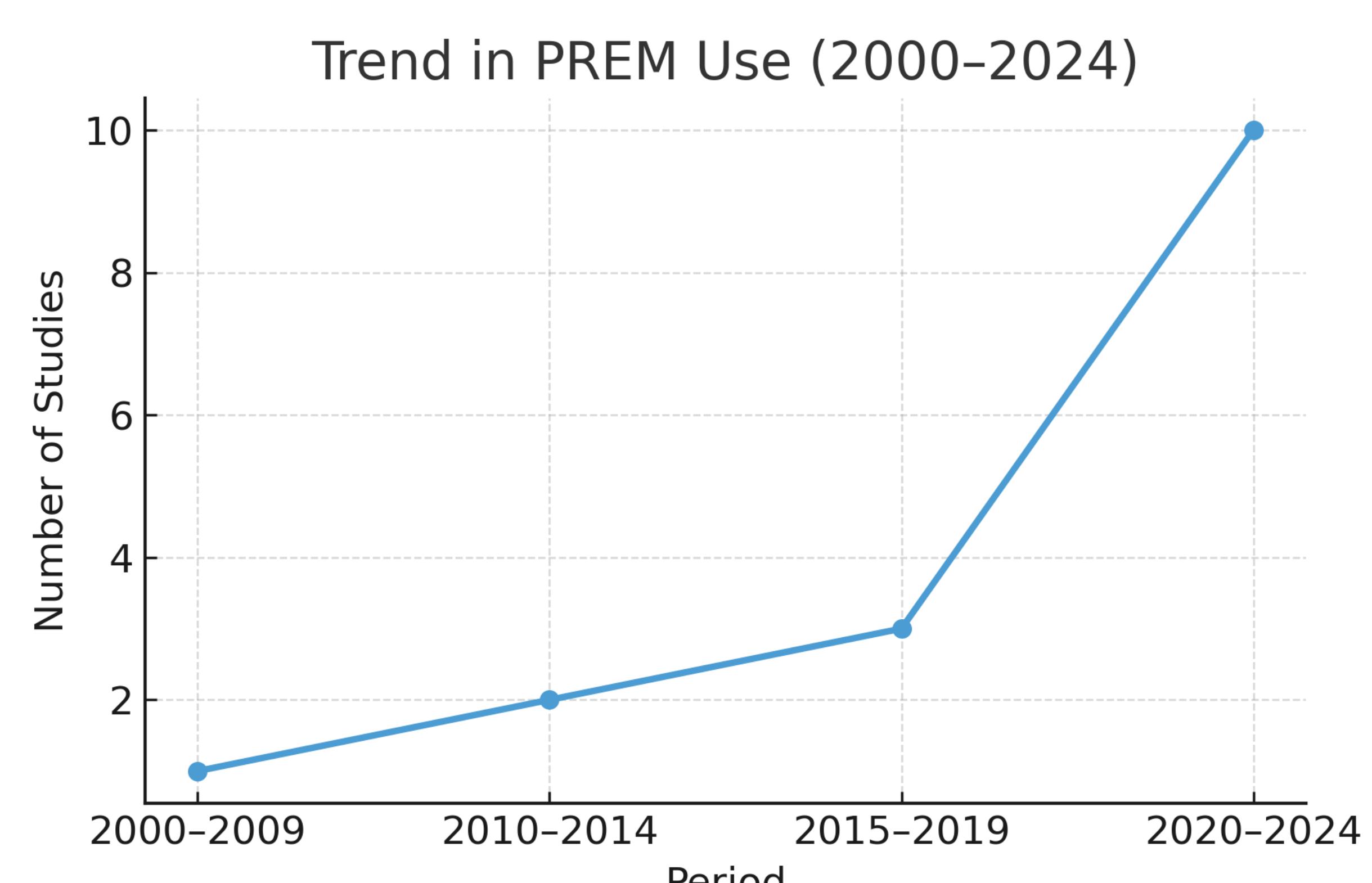


Figure 1: Trend of using PREMs in sleep-medicine research since 2000.

OBJECTIVE

The objective of this systematic review was to explore how patient experience has been measured in OSA research over the past two decades. Specifically, we sought to (1) identify existing PREMs applied in adult OSA populations, (2) evaluate their methodological quality and validation status, (3) assess their correspondence with ISPOR-defined domains of patient experience, and (4) situate these findings within the broader evolution of patient-centered research in sleep medicine.

METHODS

A systematic evidence review was conducted following the PRISMA 2020 framework.

Comprehensive searches were performed in PubMed, Scopus, Web of Science, PsycINFO, and Google Scholar using combinations of controlled vocabulary (MeSH terms) and free-text keywords related to obstructive sleep apnea, patient experience, and PREMs.

Eligible studies involved adult populations and used structured tools to assess patient experience in the context of OSA diagnosis or treatment.

Studies were excluded if they measured only outcomes (PROMs) or reported unstructured satisfaction scores.

Two reviewers independently screened titles, abstracts, and full texts, resolving discrepancies by consensus.

Data were extracted on study design, country, sample characteristics, PREM instrument type, validation status, and alignment with ISPOR's conceptual framework.

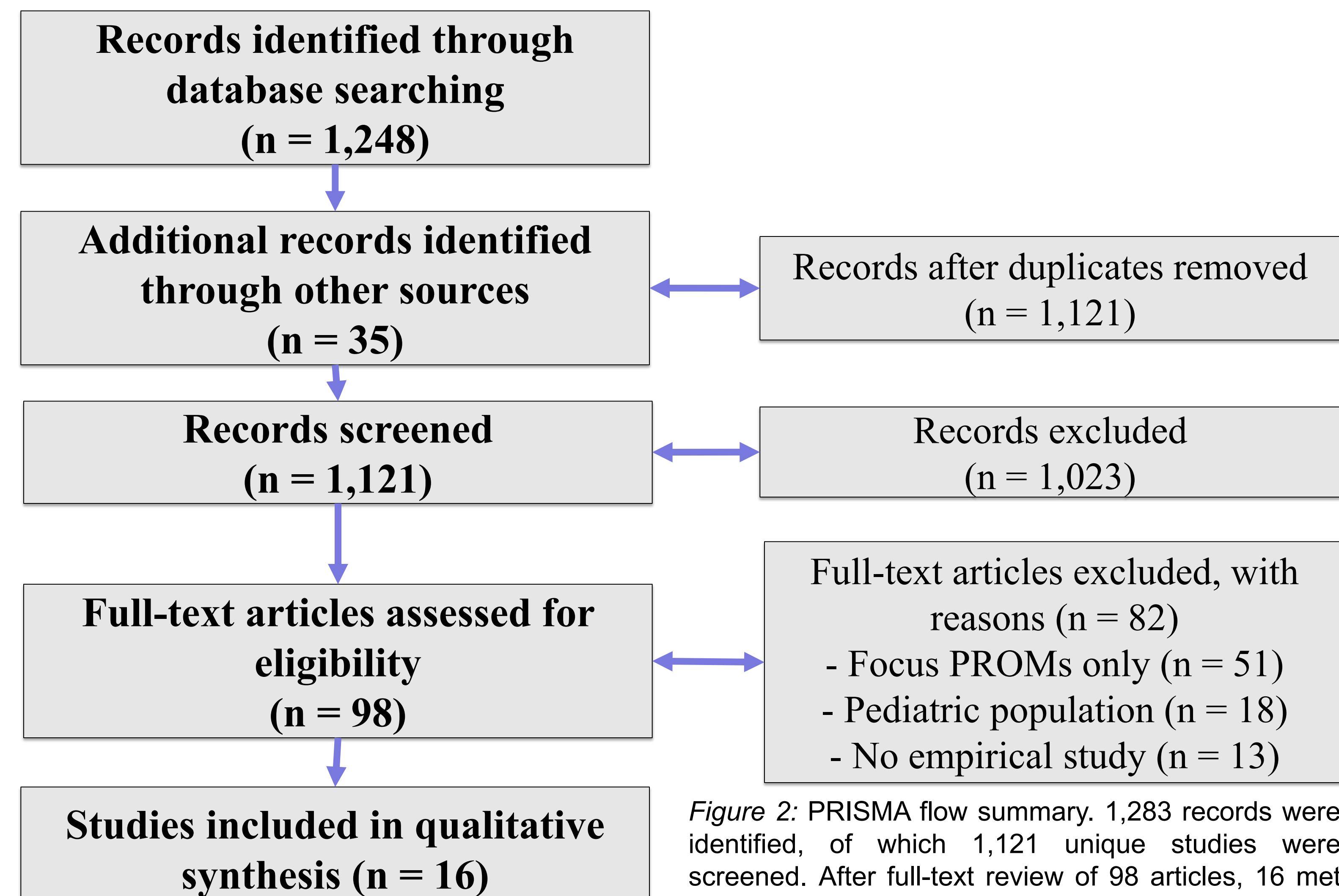


Figure 2: PRISMA flow summary. 1,283 records were identified, of which 1,121 unique studies were screened. After full-text review of 98 articles, 16 met all inclusion criteria.

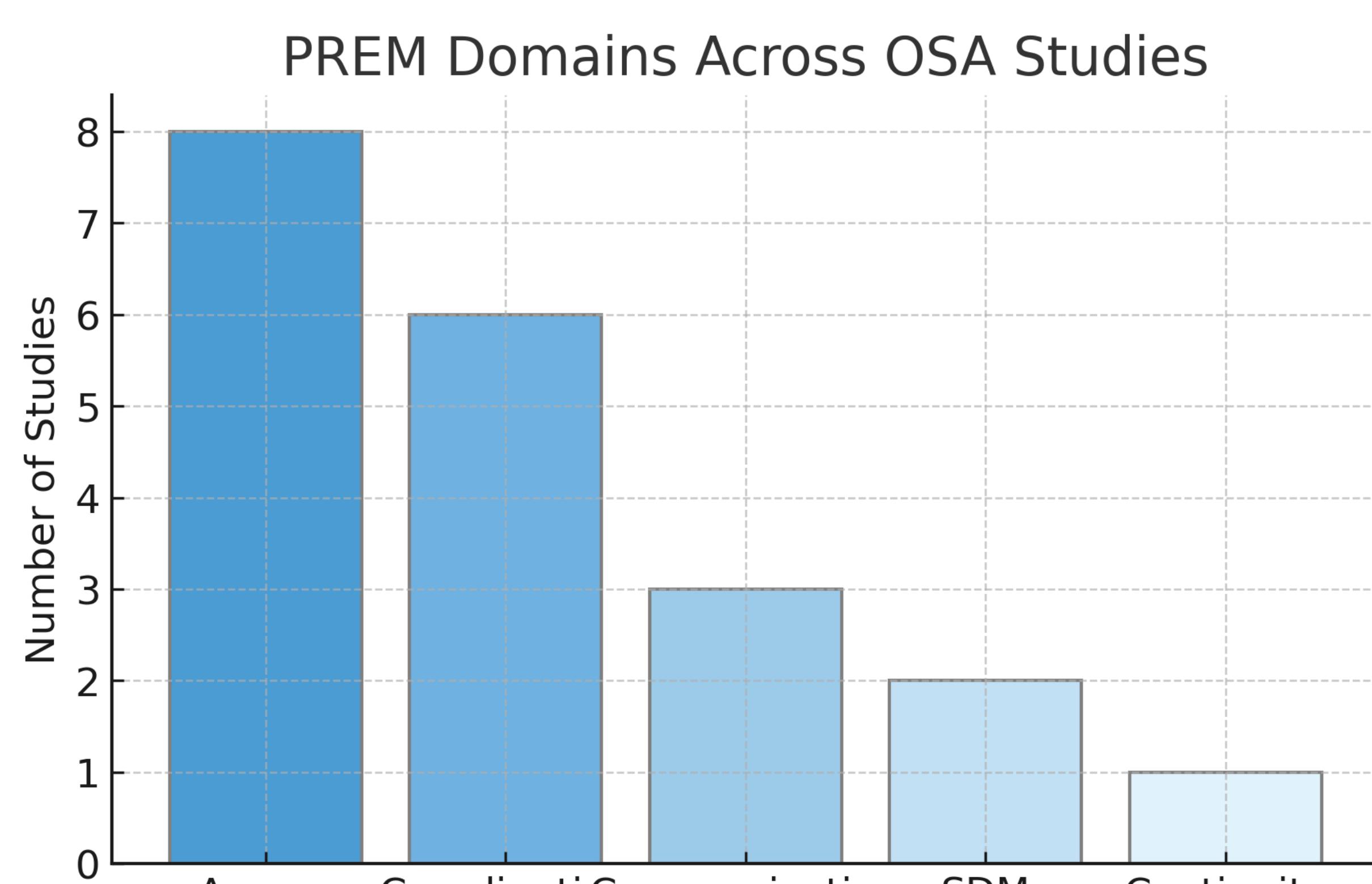


Figure 3: Distribution of PREM domains in OSA studies.

RESULTS

Across the 16 eligible studies, no publication employed a validated ISPOR-compliant PREM such as the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) or the Patient Assessment of Chronic Illness Care (PACIC).

Instead, more than 80% of studies relied on self-developed questionnaires, often designed to capture treatment satisfaction or perceived burden rather than true experiential dimensions. The most frequently evaluated aspects of care were access to services (reported in eight studies) and coordination of care (six studies), whereas domains such as communication quality (three studies) and shared decision-making (two studies) were rarely addressed (Fig. 3). None of the identified tools covered all ISPOR-defined domains of experience.

A temporal trend was observed, with almost no PREM use before 2015, followed by modest growth after 2020, corresponding to the emergence of multidisciplinary OSA management programs and telemedicine models (Fig. 1).

DISCUSSIONS

This review highlights a considerable methodological and conceptual gap in the assessment of patient experience in OSA research.

While PROMs remain central to the evaluation of clinical outcomes, PREMs - which reflect the interpersonal and organizational aspects of care - are notably absent. The conflation of patient satisfaction with patient experience persists in many studies, limiting their interpretability within the ISPOR framework. Given the shift toward value-based and patient-centered care models, the lack of standardized, validated PREMs hampers comparative effectiveness research and hinders the integration of patient perspectives into decision-making. Future research should focus on adapting or developing validated PREM instruments specific to OSA and evaluating their psychometric performance across diverse care settings.

CONCLUSIONS

Validated PREMs remain largely absent from the OSA literature despite their recognized relevance for healthcare quality assessment.

To capture the full patient journey, future studies should systematically incorporate PREMs alongside PROMs, thereby enabling a multidimensional understanding of care quality that extends beyond clinical efficacy.

The adoption of ISPOR-aligned PREMs would facilitate international comparability, support continuous quality improvement, and ensure that the patient voice is embedded in the evolving landscape of sleep-medicine care.

References

[1] ISPOR Task Force on Patient-Reported Experience Measures (2023). [2] PRISMA 2020 Statement. BMJ 2021; 372:n71. [3] Selected OSA PREM Studies (2003–2024).

Disclosures

M.W. received fees from SI-BONE (United States) a company unrelated to the research topic of this study and personal fees from Inspire Medical Systems (United States). M.B. was an employee of Onera Health (The Netherlands), a company unrelated to the research topic of this study.