



## EDITORIAL

## Integrating the best available evidence: A methodological roadmap for the practicing paediatrician



### Integrar la mejor evidencia disponible: una hoja de ruta metodológica para el pediatra clínico

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At a time when evidence-based medicine (EBM) has become a ubiquitous but not always well-understood mantra, this six-article series, published as a monographic supplement, offers something much more ambitious than a simple theoretical reminder: it proposes a common core of competencies to enable the true integration of EBM in pediatric practice. From the five classic steps (question, search, appraisal, application, and performance assessment), to the choice of study design, the handling of frequency and impact measures, the critical appraisal of observational studies and clinical trials, and, finally, the development of consensus documents when the evidence is insufficient, the reader is provided with a complete roadmap to go from individual clinical uncertainty to a collective and structured position.

The starting point is to remind ourselves that EBM is not an end in itself, but rather a method for making better decisions in scenarios of increasing uncertainty. The article "Evidence-Based Medicine: 5 Steps to Navigate Uncer-

tainty"<sup>1</sup> lays out the conceptual framework for the entire series and grounds it in everyday clinical practice. The proposal is well known, but no less relevant for it: formulate structured clinical questions, conduct an efficient evidence search, appraise the evidence critically, assess the applicability of the results, and integrate the evidence in real-world practice taking into account the preferences of patients and families. What is new is the emphasis on managing information overload and the need to close the circle with implementation; without this last step, the authors warn, EBM runs the risk of becoming an elegant but clinically irrelevant theoretical framework.

This sets the foundations for the second article, which is devoted to the "main methodological designs" in pediatric research.<sup>2</sup> Far from providing an exhaustive catalog, the article serves as a map that allows clinicians to match each type of study design to the type of question it seeks to answer. It differentiates observational and experimental studies, as well as descriptive (case series, cross-sectional studies) and analytical (cohort, case-control) studies, setting randomized controlled trials as the gold standard for establishing causality when conducting them is both feasible and ethical. The core message is clear: there is no absolute "best" among study designs, but rather the possibility

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of identifying the most appropriate design for the clinical question at hand given the resources and limitations of the particular health care setting or system. Knowing how to identify it is not just an academic skill, but also a clinical competence.

The third article, devoted to "Frequency, Risk and Impact Measures",<sup>3</sup> provides the required quantitative language to translate the theoretical discourse of EBM into an operational tool. Prevalence, incidence (cumulative incidence and incidence density), prevalence ratios, relative risk, odds ratio, attributable fraction, absolute and relative risk reduction, and number needed to treat are presented not as formulas to be memorized, but as tools for estimating the real magnitude of problems and interventions. The text emphasizes an important distinction between statistical significance and clinical relevance: a result may be "significant" in terms of its *P* value, yet have only a marginal impact in practice. For a pediatrician who has to prioritize the use of resources, this distinction is more than a technical nuance.

The operational core of EBM, as emphasized in the series, lies in critical appraisal. It systematizes the process around an acronym that is as simple as it is powerful<sup>4</sup>: VARA (Validity, Clinical Relevance, and Applicability). From there, it proposes three sequential stages: appraising the scientific rigor of the studies (internal and external validity), evaluating the clinical relevance or importance of their findings (considering quantitative, qualitative, comparative dimensions, and the balance of benefits, risks, and costs), and assessing whether they are applicable to patient care (in a real-world population or setting). The article focuses on observational studies used to evaluate prognostic factors and harmful effects, discussing their strengths (closeness to real-world practice, ability to study non-randomizable exposures) and limitations, especially the risk of selection and confounding biases.

The fifth article in the series, "Critical appraisal (II): Application to Scientific Articles on Therapeutic Interventions, Systematic Reviews and Meta-Analyses",<sup>5</sup> applies the same approach to the analysis of clinical trials and systematic reviews. It presents the randomized controlled trial as the gold standard for assessing therapeutic interventions, provided that it meets stringent quality criteria: well-formulated question, adequate randomization, reasonable blinding, sufficient follow-up, analysis by intention to treat and homogeneous treatment of the groups save for the intervention. In the discussion of systematic reviews and meta-analyses, the message is similarly nuanced: these are some of the best sources of evidence, but only if the question is clearly formulated, the evidence search exhaustive and reproducible, the selection criteria explicit and the risk of bias of the included studies has been rigorously assessed. In the era of "rapid synthesis" and automated meta-analysis, this call for caution is particularly relevant.

The series comes to a close with an article on "How to Develop and Evaluate Consensus Documents"<sup>6</sup> that introduces a key qualification in the EBM discourse: the available evidence is not always sufficient, homogeneous or of the highest quality. In such cases, the consensus document is a reasonable and useful tool to provide unified answers and reduce variability in clinical practice, as long as it is developed with formal methodology and reported with

transparency. The article reviews the main formal consensus methods (Delphi, nominal group, RAND/UCLA, consensus conference and other structured processes), detailing the steps involved and warning of the risks of informal consensus exercises, in which the most influential experts can impose their opinions and dominate the results without a systematic approach to consensus-building. The recommended use of standards such as the ACCORD guidelines and specific checklists can help the reader not only produce, but also critically appraise these documents, which are increasingly frequent in fields in which the evidence is scarce or uncertain. *ANALES DE PEDIATRÍA* expects all consensus statements from different groups or scientific societies submitted for publication to meet these standards of scientific rigor.

As a whole, the six articles constitute more than just a thematic series: they outline a genuine "cross-cutting competency" in EBM for practicing pediatricians, residents in training, and researchers who wish to align their work with the current needs of real-world practice. The common thread is recognizable: formulating good questions, choosing the right design, skillfully applying epidemiological measures, critically appraising the literature, and, when the evidence is insufficient, turning to consensus-based methods that are as explicit and reproducible as possible. Ultimately, the goal is to move from a practice guided by inertia, authority, or custom to a deliberate practice, in which every decision can be justified to patients, colleagues, and managers.

In a context where healthcare systems face mounting pressures, demands for efficiency, and increasing public scrutiny, EBM is no longer an academic 'extra' but an ethical and professional imperative. The goal of the series presented in this monographic supplement of the journal is not to turn all clinicians into epidemiologists, but rather to offer them a robust toolbox to navigate uncertainty more methodically and reduce guesswork. Incorporating this content into continuing education, journal clubs, and the processes of developing internal guidelines and consensus may, in the medium term, lead to a tangible improvement in the quality of pediatric care. Uncertainty will continue to be an integral part of medicine; the difference lies in how we choose to manage it.

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