

# Meta-aggregation as a Methodological Approach for the Synthesis of Qualitative Evidence in Medical Education.

## Meta-agregación como Enfoque Metodológico para la Síntesis de Evidencia Cualitativa en la Educación Médica.

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### Abstract.

The increasing incorporation of qualitative research into medical education has generated a need for methods that allow for the systematic and applicable integration of its findings. In this context, meta-aggregation emerges as a robust, pragmatic methodological approach that synthesizes qualitative evidence while preserving the original meaning of the data and guiding it toward decision-making. Through a structured process of identifying, categorizing, and synthesizing findings, it facilitates the generation of transferable knowledge and practical recommendations for curriculum design, teaching, and assessment in diverse educational contexts. Furthermore, it contributes to the integration of evidence in mixed-methods reviews and strengthens the translation of knowledge into educational practice. Although its emphasis on aggregation may limit theoretical development, its value lies in its capacity to produce useful and applicable evidence. Therefore, its wider adoption is proposed as a key strategy for bridging the gap between qualitative research and practice in medical education.

**Keywords:** Meta-aggregation, Synthesis, Qualitative Evidence, Medical Education

### Resumen.

La creciente incorporación de la investigación cualitativa en la educación médica ha generado la necesidad de métodos que permitan integrar sus hallazgos de forma sistemática y aplicable. En este contexto, la meta-agregación se presenta como un enfoque metodológico robusto, basado en el pragmatismo, que sintetiza evidencia cualitativa preservando el significado original de los datos y orientándolos hacia la toma de decisiones. A través de un proceso estructurado de identificación, categorización y síntesis de hallazgos, facilita la generación de conocimiento transferible y recomendaciones prácticas para el diseño curricular, la enseñanza y la evaluación en distintos contextos formativos. Además, contribuye a la integración de evidencia en revisiones de métodos mixtos y al fortalecimiento de la traducción del conocimiento hacia la práctica educativa. Aunque su énfasis en la agregación puede limitar el desarrollo teórico, su valor radica en su capacidad para producir evidencia útil y aplicable, por lo que se propone su adopción más amplia como estrategia clave para cerrar la brecha entre investigación cualitativa y práctica en educación médica.

**Palabras clave:** Meta-agregación, síntesis, evidencia cualitativa, educación médica

The advancement of evidence-based medical education has led to a growing interest in qualitative research, particularly for understanding learning experiences, educational processes, and institutional dynamics. However, the increasing volume of qualitative studies has created challenges regarding their systematic integration and practical application. In this context, meta-aggregation has emerged as a robust methodological approach that enables the synthesis of qualitative evidence while preserving the original meaning of findings, thereby enhancing their applicability in real-world educational settings (1).

From an epistemological standpoint, meta-aggregation is grounded in pragmatism, emphasizing the utility of knowledge for decision-making rather than theoretical reinterpretation. This approach follows a structured and transparent process that includes the identification of findings, their grouping into categories based on similarity of meaning, and the generation of synthesized statements oriented toward practical application (2). By avoiding extensive reinterpretation, meta-aggregation ensures fidelity to primary data and maintains the integrity of participants' perspectives.

In the field of medical education, this methodological approach is particularly relevant due to the need to support curricular design, teaching strategies, and assessment practices with rigorous evidence. Meta-aggregation facilitates the identification of recurring patterns across qualitative studies addressing clinical training, professional development, and educational experiences. This process enables the construction of transferable knowledge, particularly in contexts such as undergraduate clinical training, residency programs, and simulation-based education, where consistent patterns of learning experiences can inform curriculum design and pedagogical decision-making (3-4).

Moreover, meta-aggregation contributes significantly to the generation of actionable recommendations. Evidence derived from meta-aggregative syntheses has demonstrated its usefulness in guiding educational interventions, improving learning environments, and supporting decision-making in complex settings, including high-demand training scenarios and clinical education contexts (5-6). This capacity to translate qualitative findings into practical guidance is particularly valuable in medical education, where the alignment between research and practice remains a critical challenge.

Another important contribution of meta-aggregation lies in its ability to support the prioritization of qualitative findings within mixed-methods systematic reviews. This strengthens the integration of diverse forms of evidence and enhances the comprehensiveness of conclusions, which is essential in addressing the multifaceted nature of medical education (7). Additionally, the categorization of findings into coherent and comparable groups facilitates the identification of convergences and divergences across studies, supporting informed decision-making and policy development (8).

Furthermore, meta-aggregation plays a key role in knowledge translation by producing outputs that are clear, structured, and directly applicable. This contributes to bridging the gap between qualitative research and educational practice, promoting the use of evidence in the continuous improvement of training processes in health professions education.

Despite its strengths, it is important to acknowledge that the emphasis of meta-aggregation on aggregating findings may limit the development of new theoretical insights. Therefore, its use should be considered complementary to more interpretive approaches, depending on the objectives of the research.

We argue that meta-aggregation should be more widely adopted as a standard methodological approach in medical education research, particularly in areas where the translation of qualitative evidence into practice is essential for improving training processes and educational outcomes. Its structured and pragmatic nature allows for the generation of actionable knowledge across diverse educational contexts, including undergraduate education, residency training, and simulation-based learning environments.

In an era where evidence-informed decision-making is increasingly demanded, meta-aggregation should not be viewed merely as an alternative, but as a necessary methodological strategy to bridge the gap between qualitative research and educational practice in medical education.

### Conclusions.

- Meta-aggregation is a key methodological tool for rigorously synthesizing qualitative evidence in medical education, with a focus on practical application.
- Its pragmatic approach facilitates the generation of applicable recommendations that contribute to improving training processes and educational decision-making.
- Its wider adoption can strengthen the integration of research and practice, although it should be complemented by interpretive approaches for theoretical development.

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