

# Methodological rigor

- The GREENBEAN checklist for reporting studies evaluating the effectiveness of EEG-based biomarkers
- To framework, or not to framework? Reflections from co-design of a digital supportive care platform for patients with brain tumours and their carers
- Global research trends in biomarkers, therapeutic targets, and drugs for amyotrophic lateral sclerosis: a bibliometric and visualization analysis
- Deep cervical lymphaticovenous anastomosis in Alzheimer's disease: A promising frontier or premature enthusiasm?
- Stuck Together: A Systematic Review of Hand Syndactyly
- Uric Acid Stroke Cerebroprotection Transcended Sex, Age, and Comorbidities in a Multicenter Preclinical Trial
- Considerations and recommendations from the ISMRM diffusion study group for preclinical diffusion MRI: Part 2-Ex vivo imaging: Added value and acquisition
- Minimally Invasive Surgery for Spontaneous Intracerebral Hemorrhage: A Review

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Methodological **rigor** refers to the **strictness** and **robustness** of the **methods** used in **research** or **analysis**. It emphasizes the importance of using well-defined, systematic, and transparent approaches to ensure the **validity** and **reliability** of the findings.

## Key aspects

**Clear Research Design:** A well-structured design that outlines how the research will be conducted, including the selection of participants, data collection methods, and analysis techniques.

**Use of Established Methods:** Employing recognized and validated research methods and tools that are appropriate for the study's objectives.

**Transparency:** Clearly documenting all procedures, decisions, and analyses to allow for replication and scrutiny by others in the field.

**Sampling and Selection:** Using appropriate sampling techniques to ensure that the sample accurately represents the population being studied, minimizing bias.

**Data Quality:** Ensuring high-quality data collection through careful planning and execution, which includes pilot testing instruments and training data collectors.

**Statistical Analysis:** Applying appropriate statistical methods for data analysis to support the conclusions drawn from the research.

**Peer Review and Validation:** Subjecting the research to peer review or validation processes to ensure that the methodology and findings are sound and credible.

In summary, methodological rigor is essential for producing trustworthy and meaningful research results, contributing to the overall credibility of the findings and their potential impact on the field.

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