

# Research Publication: The Backbone of Medical Progress

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Warm greetings to all

## Research is creating new knowledge- Neil Armstrong

The development of the medical domain is closely tied to continuous research and its effective distribution through scientific publications. Publishing research is crucial for translating scientific innovations into clinical settings, leading to better patient care, enhanced diagnostic accuracy, and improved therapeutic outcomes. Publishing research facilitates the exchange of evidence-based insights, promotes scholarly dialogue, and stimulates critical assessment among healthcare practitioners. It connects laboratory discoveries with practical clinical uses, enabling innovations to be embraced, improved, and standardized throughout healthcare systems. Publishing articles also builds credibility, enables cooperation, recognition, and advancement in academic, impacts society and inspires new research.

Thus, enabling the researcher to establish themselves as experts in the field, creating newer opportunities and contributes to the advancement of knowledge and understanding in specific field. The current research study designs are represented as '**Pyramid of Publication**' where systematic reviews and meta-analyses are at the top of the pyramid representing strongest evidence while case reports/ expert's opinions are at the bottom of the pyramid suggesting weakest evidence of research and reflects increased precision and reduced bias from bottom to top.

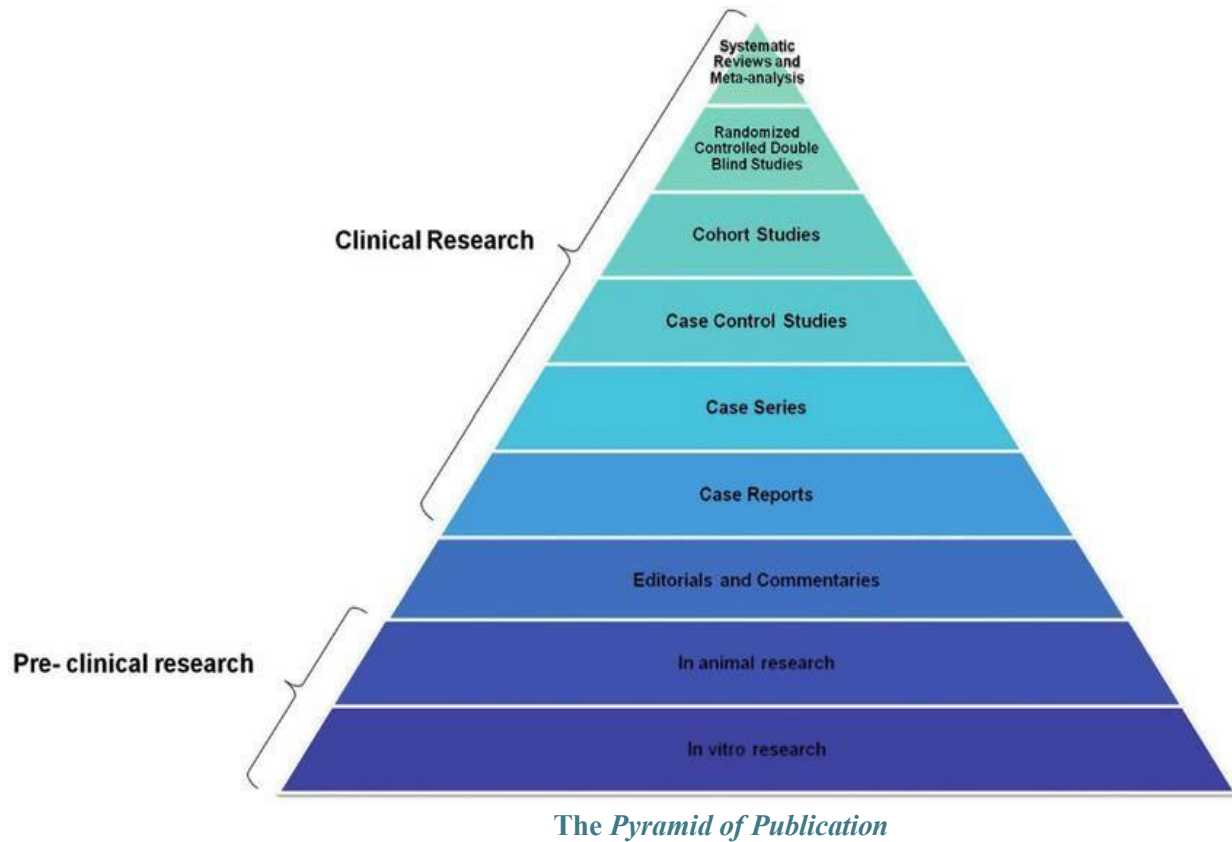
The purpose for publishing article may either be sharing knowledge, contribute a lasting body of research, individual motivation, for strong

curriculum vitae, for promotion or other career advancement. The challenges faced while publishing an article in a journal is clarity of writing quality, selecting the right journal, adhering strictly to formatting, cost of publications, plagiarism, authorship and predatory journals.

**Systematic reviews and meta-analyses:** combine results from multiple high-quality studies often Randomised controlled studies RCT, combined with statistics for powerful less biased conclusions. They provide strong evidence for clinical guidelines, health policy, resolves conflicts from individual studies and guides future research by highlighting gaps in knowledge.

**Randomised controlled trial (RCTs)** are prospective studies that measure the effectiveness of new intervention or treatment and is the gold standard for effective research. RCT minimises bias, establishes cause, has high internal validity, allows direct comparison. However, its time consuming, expensive and may have ethical issues.

**Cohort study** is an observational research method where researchers observe participants without intervening, or tracking them forward (prospective) or backward (retrospective). They measure incidence, determine relative risks making them powerful for understanding disease but is expensive and time consuming.



- **Case control study** is a retrospective observational design comparing cases with controls to find past exposure risk factors backwards from effect to cause. Its quick, inexpensive good for rare disease while it's prone to bias, can't establish cause only association difficult to select controls.

- **Case reports/ series/ editorial/ expert's opinion-** case report describes a single case whereas case series describes 2-3 case reports. Describes individual cases or opinions; useful for generating ideas but weak for proving cause.

**If research is creating new knowledge, then publishing is its immortalization**

**Together in spirit, united in purpose**