



Editorial

Case series – Insights on value and use

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Manuscripts in medical journals are published in a spectrum of formats ranging from original research to individual case reports. Among these, a “case series” is a lesser understood and possibly underutilized form of research methodology. It can be interpreted in various ways and we aim to clarify both definition and utility.

A case series cannot be considered merely a combination of case reports. It is an observational and descriptive research methodology. At its bones, a case series is a collection of cases with a common factor or outcome. The cases may or may not have common exposure factors and can be selected prospectively or retrospectively. Dekkers *et al.* infer that the absence of subjects without the specified “outcome” means that absolute risk cannot be calculated.^[1-4]

To offer perspective, cohort studies will follow a group of exposed/unexposed subjects to study the possibility of an outcome. This permits the calculation of absolute risk (as well as relative risk if controls are included).^[1,5]

Over 3 cases are required for a case series to be accepted as research.^[6] It can include from 3 to 100 cases, however, case series is not mentioned under the strengthening the reporting of observational studies in epidemiology (STROBE) guidelines.^[7,8]

There is no formally defined process for case selection, and often includes any relevant case encountered by the researcher, not necessarily consecutive or over a defined period of time. This offers the opportunity for some amount of bias (in particular, selection bias).^[2,9,10]

Although strong data-backed conclusions cannot be made from a case series, they contribute in other valuable ways. For example, often, this is the first way of presenting a new hypothesis or identifying new patterns. Subsequently, attention can be brought to the topic and further detailed research may be performed.^[3] Case series can aid in the design of future prospective trials and funding applications. It can lead to the recognition of new pathologies or uncommon presentations of common pathologies.

It is inexpensive and can be done in low-resource settings with ease. In view of straightforward methodology, a case series can also be published rapidly for new pathologies requiring urgent study. For example, during Covid-19, information about the clinical presentation, virology, and management of complications were essential to be disseminated quickly.^[11,12] The source of life-threatening hemoptysis in post-Covid-19 patients was from pulmonary pseudoaneurysms, unlike bronchial arteries found in a post-tubercular squal. Embolization could be planned accordingly.^[13]

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HOW TO PROCEED WITH WRITING A CASE SERIES

Cases are identified by those that present an unusual clinical situation or offer a novel diagnostic or therapeutic method. A challenging clinical scenario that is managed can also be useful. It is ideal for cases to be collected rapidly, as this avoids any confounding factors that are unknown. It is important to include detailed descriptions of patient profiles, diagnostic findings, and interventions. It is prudent to address any potential bias.^[14]

Gagnier *et al.* have drafted the CARE guidelines (case reports) to provide a structure to the writing of a case series. It provides a checklist to ensure that all requirements are met and reporting standards are maintained.^[15] The framework reinforces the importance of providing a detailed description of any intervention to ensure reproducibility. The available literature must be summarized. Despite formal statistical analysis being impossible, authors may summarize or interpret the available data.^[16]

There is no uniformity regarding the approvals from the ethics or research board. We believe that a formal approval mentioned by the Sage publishers would enhance the value of the publication.^[17]

In the Indian medical profession, a case series has gained traction as it is now recognized by the National Medical Council (NMC) for the promotion of faculty. It is often the first exposure of medical professionals to publication. Radiology and broad-spectrum journals that accept case series include JCIR, IJRI, and CRCR.^[7,18,19]

In summary, case series are not to be overlooked as a futile research methodology. They offer a wide range of benefits and significantly add to the knowledge pool. In addition, they can guide further formal research. It is prudent to select cases with care and describe the contribution of the information offered. The readers would benefit if more medical journals included the format. Due recognition by the authorities overseeing the academic performance of medical faculty is needed.

REFERENCES

- Dekkers OM, Egger M, Altman DG, Vandembroucke JP. Distinguishing case series from cohort studies. *Ann Intern Med* 2012;156:37-40.
- Munn Z, Barker TH, Moola S, Tufanaru C, Stern C, McArthur A, *et al.* Methodological quality of case series studies: An introduction to the JBI critical appraisal tool. *JBI Database Syst Rev Implement Rep* 2019;18:1.
- El-Gilany AH. What is case series? *Asp J Biomed Clin Case Rep* 2018;1:10-5.
- Murad MH, Sultan S, Haffar S, Bazerbachi F. Methodological quality and synthesis of case series and case reports. *BMJ Evid Based Med* 2018;23:60-3.
- Mathes T, Pieper D. Clarifying the distinction between case series and cohort studies in systematic reviews of comparative studies: Potential impact on body of evidence and workload. *BMC Med Res Methodol* 2017;17:107.
- Duke University Health System. Case reports: Single case reports-limited case series. *Human Research Protection Program*; 2021.
- Journal of clinical interventional radiology author instructions. Available from: https://web.thieme.com/media/ita/JCIR_AuthorGuidelines.pdf [Last accessed on 2023 Dec 31].
- Omair A. Selecting the appropriate study design for your research: Descriptive study designs. *J Health Spec* 2015;3:153-6.
- Abu-Zidan FM, Abbas AK, Hefny AF. Clinical "case series": A concept analysis. *Afr Health Sci* 2012;12:557-62.
- Cummings P, Weiss NS. Case series and exposure series: The role of studies without controls in providing information about the etiology of injury or disease. *Inj Prev* 1998;4:54-7.
- Bhatraju PK, Ghassemieh BJ, Nichols M, Kim R, Jerome KR, Nalla AK, *et al.* Covid-19 in critically ill patients in the Seattle region-case series. *N Engl J Med* 2020;382:2012-22.
- Lescure FX, Bouadma L, Nguyen D, Parisey M, Wicky PH, Behillil S, *et al.* Clinical and virological data of the first cases of COVID-19 in Europe: A case series. *Lancet Infect Dis* 2020;20:697-706.
- Endovascular interventions in COVID-19 patients with hemorrhage-VDM. Available from: <https://www.hmpgloballearningnetwork.com/site/vdm/role-endovascular-interventions-management-covid-19-patients-presenting-massive-hemorrhage> [Last accessed on 2023 Nov 18].
- Kooistra B, Dijkman B, Einhorn TA, Bhandari M. How to design a good case series. *J Bone Joint Surg Am* 2009;91:21-6.
- Gagnier JJ, Kienle G, Altman DG, Moher D, Sox H, Riley D. The CARE guidelines: Consensus-based clinical case reporting guideline development. *Glob Adv Health Med* 2013;2:38-43.
- Ganesan P. How to write case reports and case series. *Int J Adv Med Health Res* 2022;9:55-8.
- Proceedings of the institution of mechanical engineers, Part B: Journal of engineering manufacture. United States: Sage journals. Available from: <https://journals.sagepub.com/author-instructions/pib> [Last accessed on 2024 Jan 05].
- Instructions to the authors. Available from: <https://www.thieme.com/ijri> [Last accessed on 2023 Nov 18].
- Case reports in clinical radiology-for authors. Available from: <https://caserepclinradiol.org/for-authors> [Last accessed on 2023 Nov 18].

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