


Basics of Writing Case Reports

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In the field of medicine, anything that is unique or unusual might be noteworthy and the medical world needs to be informed. In this regard, reporting extraordinary cases has always been a crucial task for medical professionals and papers of case reports have been indispensable for the art of medicine. This paper outlines the key points of writing case reports and follows up the editorial paper published in March 2022 issue of Archives of Neuropsychiatry which explains the basics of writing review papers (1).

Case reports are articles which make an elaborate presentation of unexpected or rare incidences about a patient's medical history, signs, symptoms, diagnosis, course, and treatment. Their purpose is to report new insights learnt from a specific case. In fact, case reports might capture information in a real-world setting that cannot be obtained under controlled conditions of clinical studies by systematic methods.

Case reports provide evidence based on observation and examination of individual cases and are considered to be at the bottom of the hierarchy of clinical evidence. Nevertheless, they might make significant contributions to medicine, triggering novel research questions and studies which can lead to medical breakthroughs. They alert physicians for the detection of similar cases, and often form the first line of evidence for new treatments or make up the first source for rare side effects and unexpected adverse events (2).

Practically, case reports can be classified into two main categories as “diagnosis-related” and “management-related” (3). Under this general classification, most of the time, publishable case reports cover one of these topics (3, 4):

- New diagnostic methods
- Description, diagnosis, and management of emerging diseases
- Unexpected presentations of previously known diseases
- Variations in disease processes
- Unexpected associations between diseases or symptoms
- Unreported or unusual side effects
- Adverse interactions involving drugs
- Unexpected events during follow-up of patients
- Findings that might illuminate the pathogenesis of a disease or an adverse effect

Of course, rarity or novelty alone does not make a case report worth writing or publishing. First of all, a case report is supposed to add to current medical knowledge. Secondly, it must deliver an educational message to guide the diagnosis and management of new cases or to inspire new research. Last but not least, it must meticulously examine and report everything that can be of importance about the case.

Unfortunately, many times insufficient reporting limits the value of a case report and decreases its chances to be published. The CARE guidelines (for CAse REports) are developed internationally to improve the quality, accuracy, and usefulness of case reports (5, 6). They make an important consulting source for authors and provide a checklist to ensure completeness and transparency of case reports. The CARE guidelines and CARE checklist are available online at <https://www.care-statement.org>. CARE checklist is also listed on the EQUATOR (Enhancing the Quality and Transparency of Health Research) Network, available at <https://www.equator-network.org>. The authors are strongly encouraged to check the CARE guidelines before they start writing their case reports.

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Highlights

- **Case reports provide the first line of evidence for clinical knowledge.**
- **Case reports are written in “introduction, case presentation and discussion” format.**
- **A precise, complete, transparent case presentation is a must have.**
- **Discussion must be based on scientific reasoning and evidence.**

Case reports are generally written in a modified IMRaD (introduction, methods, results, and discussion) format of original research articles (7). This modified format consists of “introduction, case presentation and discussion” sections where case presentation section sits in for both methods and results. Other sections are title, abstract, key words, references, figures (optional), acknowledgements (if applicable), and informed consent. The CARE guidelines also recommend including “patient perspective” as a separate section to reflect the thoughts and experiences of patients on the treatment they received (5, 6).

The authoring of the case report should start only after the written informed consent of the patient is obtained. In the article, it must be clearly stated that the patient is fully informed and has given written informed consent. This statement might be included in the case presentation section or in a separate informed consent section.

The title provides an initial overview of the paper. It must be brief, specific, and descriptive. The title of a case report must include the word “case report” (5, 6), along with the most relevant and interesting information about the case. On the other hand, it should avoid any redundant words or abbreviations. The word “case report” must also be written as one of the key words to increase the visibility of the article in database search results (5, 6). Please note that “case report” is included in Medical Subject Headings (MeSH) (<http://www.ncbi.nlm.nih.gov/mesh>), which most scientific journals require the key words to be chosen from.

The structure of the abstract may vary depending on the journal. Although, some journals do not ask for a structured abstract, it is always a good idea to structure the abstract to make it more readable. The structured abstract is organized in line with the main text and consists of three subsections: introduction (and/or objectives), case presentation, discussion (and/or conclusion). As the most read section of the case report, abstract must be brief and to the point.

The introduction explains the focus, objective, and importance of the case report and places it into the context. It starts providing background information and cites a few of the most relevant papers on the topic. With the support of the previous literature, it makes a rational for the case report explaining what makes this case worth reporting and how it relates to clinical practice. Introduction should end with a very brief description of the most important features of the case in no more than one or two sentences stating the objective and main message of the paper. This also yields a smooth transition to the next section which presents the case. Introduction section should be brief, and details of the case and most of the relevant papers on the subject (except for a few required to make the context) should not be mentioned in the introduction but kept for the subsequent sections.

The case presentation section makes the central part of the case report. It must describe the case precisely and in chronological order. It starts with the patient’s demographic information (age, sex, race, occupation) but must omit any sort of identifiers such as patient names, initials, birth

or death dates, hospital admission or discharge dates, medical record numbers, id numbers etc. The main symptoms (or chief complaint of the patients in their own words wherever possible) comes next. After this, all the relevant information including medical, family, psychosocial, and occupational history along with findings of physical and mental examinations, laboratory analysis, other investigations and scores of scales and questionnaires applied should be reported. Images or photographs can be supplemented if necessary but requires specific permission of the patient and every precaution must be taken to ensure patient anonymity. The clinical picture, diagnostic process and management of the patient follows. The case presentation section usually ends with a paragraph explaining the course of the illness and outcome of the case. All through the case presentation section, only the information relevant to the case must be reported and it must be done in an objective manner without interpretation.

Discussion is the section where the case is analyzed, and the key findings are interpreted. It is the most important section of the case report (8) which stresses the contribution of the article to the field (9). It provides a summary of the previous literature citing the most relevant papers and compares the findings of the paper with the previous literature. It discusses the contradictions and similarities and addresses the validity of the case. Discussion section should include explanations about specific management decisions as well as limitations and shortfalls. It must state the newly learnt lessons from the case and discuss how they can impact clinical practice. The authors should also point out to the gaps in the current knowledge which the case report sheds light into and make recommendations for future research. This section is where the authors apply scientific reasoning, offer their opinion, and suggest their own hypotheses. However, far reaching, unsupported comments should be avoided, and recommendations should be based on evidence.

In conclusion, case reports are critical articles which might bring out sensible information that can be overlooked during clinical studies. It is a responsibility for all medical professionals to report an extraordinary case as early as possible. Unlike review papers which require expertise to interpret the current state of scientific evidence (1), case reports can be and should be authored by all medical professionals including early-career physicians. It is reported that early-career psychiatrists benefit from publishing case reports not only in terms of career advancement, but also from an educational perspective learning from the writing process itself (10).

REFERENCES

1. Erol A. Basics of writing review articles. *Noro Psikiyatr Ars* 2022; 59 (1): 1-2. [\[Crossref\]](#)
2. Albrecht J, Werth VP, Bigby M. The role of case reports in evidence-based practice, with suggestions for improving their reporting. *J Am Acad Dermatol* 2009; 60 (3): 412-418. [\[Crossref\]](#)
3. Peh WCG, Ng KH. Writing a case report. *Singapore Med J* 2010; 51 (1): 10-13.
4. Rison RA. A guide to writing case reports for the *Journal of Medical Case Reports and BioMed Central Research Notes*. *J Med Case Rep* 2013; 7: 239. [\[Crossref\]](#)
5. 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 (5): 38-43. [\[Crossref\]](#)
6. Riley DS, Barber MS, Kienle GS, AronsonJK, von Schoen-Angerer T, Tugwell P, et al. CARE guidelines for case reports: explanation and elaboration document. *J Clin Epidemiol* 2017; 89: 218-235. [\[Crossref\]](#)
7. Weinstein R. Writing scientific case reports for top-line journals. *J Clin Apher* 2021; 36 (3): 465-469. [\[Crossref\]](#)
8. Cohen H. How to write a patient case report. *Am J Health Syst Pharm* 2006; 63 (19): 1888-1892. [\[Crossref\]](#)
9. García-Doval I, Albrecht J, Flohr C, Batchelor J, Ingram JR; European Dermato-Epidemiology Network (EDEN). Optimizing case reports and case series: guidance on how to improve quality. *Br J Dermatol* 2018; 178 (6): 1257-1262. [\[Crossref\]](#)
10. Cromwell JC, Stern TA. Publishing case reports: educational strategies and content recommendations. *Psychosomatics* 2019; 60 (4): 361-364. [\[Crossref\]](#)