



A NOVEL VIEW OF CASE REPORTS IN CHIROPRACTIC CLINICAL RESEARCH: BARRIERS AND SOLUTIONS FOR CLINICIANS

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ABSTRACT

Case reports remain an important contributor to clinical research, providing valuable insights into diagnostic complexity, individual patient outcomes, and novel therapeutic approaches. In chiropractic care, where individualized treatment plans are paramount, case reports can offer profound insights into patient diagnosis, management, response to treatment, and innovative therapeutic techniques. However, despite their importance, barriers exist to creating and publishing case reports for many students and clinicians. This commentary seeks to acknowledge the value and opportunity of case reports in chiropractic research, while addressing the challenges clinicians face in producing them. Furthermore, it proposes an abbreviated case report format that maintains scientific rigor, is accessible to students and practitioners, and maximizes the potential of the format. (*J Contemporary Chiropr* 2024;7:173-179)

Key Indexing Terms: Case Series; Commentary; Chiropractic; Clinical Research; Case Report; Case Reports

INTRODUCTION

Case reports remain an important contributor to clinical research, providing insights into complex cases and diagnoses, individual patient outcomes,

and novel therapeutic approaches in real life settings (1) These detailed reports offer a granular view of patient management (2) which are of importance to a contemporary chiropractic profession, where treatment plans are encouraged to be bespoke to the individual, and patient centered. (3) The value of case reports in chiropractic care cannot be overstated; they not only document unique patient presentations and diagnoses, responses, and innovative treatment methodologies, but can also serve as a practical reference for other clinicians facing similar clinical challenges (4), and as educational tools. (5) Through case reports, clinicians can share their experiences, contribute to the collective knowledge base, enhance patient care, and foster clinical and scientific advancements, making their use as a scientific format, arguably more relevant than ever. (6)

It is important to note that case reports (and series) typically describe individuals or small groups of patients and lack the rigorous methodological controls of higher-level studies, such as randomized controlled trials or systematic reviews. They are considered low-level evidence that preclude any causal conclusions, remain susceptible to publication bias, and prohibit generalization. (7) While it may be tempting for authors to report on multiple cases or patients (i.e., a case series) in an effort to strengthen the findings of the report, the limitations inherent to case reports are also inherent to case series. Unless commenting on a proposed prevalence or serial nature of a disease, case series do not allow for any greater generalization than a well-conducted singular report, and thus must be weighed against the additional time and effort. If used properly, however, reports and series

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can contribute in ways that more rigorous or structured research absolutely cannot. Case reports represent an untapped resource and opportunity for chiropractic clinicians wishing to play a wider role in research efforts. Indeed, as a profession with a relatively small number of active researchers, growing the capacity for additional research in this area must be promoted. It has also been argued that in terms of randomized controlled clinical trials (RCTs), we have reached a point at which further exploration into the effectiveness of spinal manipulative therapy (SMT) for low back pain is not necessary, unless novel approaches are considered. (8) As such, case reports may act as catalysts for meaningful future trials in this area, as they “have a high sensitivity for detecting novelty”. (9)

Case reports can also offer several educational benefits. They provide a practical context for students to organize, document, and critically analyze real-world clinical scenarios, and are used in chiropractic education globally, to assist in the preparation of our students for practice via real life clinical cases. (5) They promote the development of hypotheses, testing, and the synthesis of information from multiple sources (e.g., scientific literature base, patient testimonials and data, as well as field doctor findings and impressions), and can serve to inform clinical education. (10) The process also promotes an actively evidence-based approach, affording students and clinicians the opportunity to engage in research (11), to become familiar with the structure and style of scientific writing, present data, cite sources, and construct coherent arguments. Case reports also allow for formalized patient integration and participation, providing a platform for patients to describe and reflect on their personal experience, which aligns well with contemporary clinical practice expectations. (11)

Despite their recognized importance, many students and clinicians face significant barriers to creating and publishing case reports. The demands of academic settings and clinical practices often leave little time for the extensive documentation and writing required for comprehensive case reports. Additionally, many students and chiropractors lack formal research training, making the process of structuring and writing a scientific case report daunting. Ethical and confidentiality concerns add another layer of complexity, further deterring from engaging in this valuable form of research. There are several useful guidelines for the creation of case reports, specific to the chiropractic profession and otherwise (10,12,13), as well as many good examples of novel and educational case reports (14-16); however, there is a need for a more accessible approach to case report documentation that allows

individuals to contribute their valuable clinical insights without being overwhelmed by the process. An abbreviated case report format, which streamlines documentation while maintaining scientific rigor, could be a viable solution to this problem. This commentary proposes an abbreviated case report format that maintains high standards of content, is more accessible to busy students and practitioners, and that incorporates patient insights more formally.

The Importance of Case Reports in Chiropractic Research

Case reports are invaluable in the chiropractic field for several reasons:

Individualized Care and Treatment Innovation

- Chiropractic care is highly individualized, often requiring tailored treatment plans. Case reports allow for the documentation and sharing of unique patient presentations and customized treatment strategies that can inform and inspire other practitioners.

Clinical Insights and Hypothesis Generation

- Case reports provide detailed clinical insights that can generate hypotheses for larger, more systematic studies. These insights are crucial for advancing the field and improving patient care.

Educational Value

- Case reports serve as an educational tool for both novice and experienced chiropractors, presenting real-world scenarios that can enhance clinical decision-making and problem-solving skills.

Documentation of Rare Conditions

- Case reports allow for the documentation of rare conditions and atypical responses to treatment, contributing to the broader medical and scientific community's understanding of these phenomena.

Barriers to Creating Case Reports

Despite their benefits, several barriers hinder clinicians from writing and publishing case reports:

Time Constraints

- Clinicians often face heavy workloads, leaving little time for the meticulous documentation and writing required for a comprehensive case report.

Lack of Research Training

- Many chiropractors may not have formal research training, making the process of structuring and writing a scientific case report daunting.

Publication Challenges

- The process of peer review and publication can be lengthy and challenging, especially for those unfamiliar with academic writing and the publication process.

Ethical and Confidentiality Concerns

- Ensuring patient confidentiality and navigating ethical considerations can be complex and may deter clinicians from writing case reports.

Proposing an Abbreviated Case Report Format

To address these barriers, we propose a shortened case report template. This template streamlines the case report writing process, making it more feasible for students and clinicians to document and share their experiences without compromising the quality and impact of their contributions. Please note that the word counts listed are approximate; these counts may change as needed depending on the topic of discussion as well as the depth of content. The abbreviated case report format includes the following sections:

1. Consent to Publish

Before beginning to write your case report, obtain consent from your patient. It is recommended to do this as soon as possible. Patients can move on and/or become difficult or impossible to reach. Obtaining consent early in the process ensures you have proper patient consent to publish relevant information. An example of a case report consent form has been provided in the Appendix.

2. Title

Should be concise and descriptive, highlighting the key aspect of the case. Include a colon, followed by "a case report" for ease of reading and search. An example of this might be, "a novel presentation of osteosarcoma as uncomplicated low back pain: a case report".

3. Abstract and Keywords

Written per journal instructions. In most instances, this will be 5-10 specific words that relate to the case you are presenting and your findings. This will help readers to find your work as well as group the topics you are discussing with similar articles.

4. Introduction (150 words)

Briefly introduce the patient and the clinical context. State the importance of the case in 1 or 2 sentences. The sentences on importance must discuss the novelty, and/or the educational value of the case.

5. Case Presentation (300 words)

Patient Information: Age, sex, relevant medical history.

Reason for Seeking Care: Description of the main issue that brought the patient to seek chiropractic care.

Clinical Findings: Key findings from the physical examination and any relevant diagnostic tests including any relevant imaging.

6. Intervention and Outcome (400 words)

Intervention: Detailed description of the treatment(s) provided, including techniques used and dose, as well as number, frequency, and duration of visits.

Outcome: Report on the patient's response to the treatment, including both subjective improvements (patient-reported outcomes) and objective findings (clinical measurements).

7. Discussion and Summary (300 words)

Discussion: Interpret the significance of the findings. Discuss how the case adds to existing knowledge and its implications for clinical practice. Be sure to refer to other relevant chiropractic literature that discusses the same diagnosis and/or interventions.

Summary: Summarize the key points and suggest areas for future research.

8. Patient Testimonial (3-5 sentences)

It can be extremely helpful to include a short paragraph from the patient discussing their feelings about, perceptions of, and responses to care. This is not intended to be a free advertisement space for a clinic, rather it is an opportunity for the patient's voice to be heard side-by-side with their clinical findings. Ideally, this section would cover topics such as perceived response to care, changes in symptoms, daily activities, and/or capabilities, as well as any other notable differences the patient attributed to their care.

9. References (5-10 choice reference)

References: Include a few key references that support the case's context and significance.

CONCLUSION

Case reports are a valuable component of chiropractic research, offering detailed insights and fostering clinical innovation. In order to be effective, case reports must

be novel, and/or possess educational value. However, there are a number of barriers to producing traditional case reports for many clinicians. This commentary suggests an abbreviated template for case reports that highlights important details necessary for straightforward comprehension and future inquiries. This streamlined approach can help bridge the gap between clinical practice and research, make it easier for practitioners to document and share their experiences, and thereby enrich the field with valuable clinical insights. Ultimately, this will not only benefit patient care but also advance the profession as a whole. With enough case reports, it will also be possible to create a consolidated library of cases, for use by students, clinicians, and scientists.

REFERENCES

1. Crowe S, Cresswell K, Robertson A et al. The case study approach. *BMC Med Res Methodol* 2011;100. <https://doi.org/10.1186/1471-2288-11-100>
2. Trager RJ, Dusek JA. Chiropractic case reports: a review and bibliometric analysis. *Chiropr Man Therap* 2012;29:17. <https://doi.org/10.1186/s12998-021-00374-5>
3. Ivanova D, Bishop FL, Newell D et al. Mixed methods systematic review of the literature base exploring working alliance in the chiropractic profession. *Chiropr Man Therap* 2022;30:35. <https://doi.org/10.1186/s1299-022-00442-4>
4. Merritt L. Case reports: an important contribution to chiropractic literature. *J Can Chiropr Assoc* 2007;51(2):72-74.
5. McLean SF. Case-based learning and its application in medical and health-care fields: a review of worldwide literature. *J Med Educ Curric Dev* 2016;3:JMECD.S20377. doi: 10.4137/JMECD.S20377.
6. Parums DV. Editorial: the increasing relevance of case reports in medical education and clinical practice - and how to write them. *Am J Case Rep* 2023;24:e942670. doi: 10.12659/AJCR.942670.
7. Nissen T, Wynn R. The clinical case report: a review of its merits and limitations. *BMC Res Notes* 2014;7:264. doi: 10.1186/1756-0500-7-264.
8. Rubinstein SM, de Zoete A, van Middelkoop M et al. Benefits and harms of spinal manipulative therapy for the treatment of chronic low back pain: systematic review and meta-analysis of randomised controlled trials *BMJ* 2019;364 :l689 doi:10.1136/bmj.l689
9. andenbroucke JP. In defense of case reports and case series. *Ann Intern Med* 2001;134(4):330-334. doi: 10.7326/0003-4819-134-4-200102200-00017.
10. Riley DS, Barber MS, Kienle GS et al. CARE guidelines for case reports: explanation and elaboration document. *J Clin Epidemiol* 201. pii: S0895-4356(17)30037-9. doi: 10.1016/j.jclinepi.2017.04.026.
11. Kidd MR, Saltman DC. Case reports at the vanguard of 21st century medicine. *J Med Case Rep* 2012;6:156. doi: 10.1186/1752-1947-6-156.
12. Lawrence DJ. Editorial: case reports for the Journal of Chiropractic Medicine. *J Chiropr Med* 2002;1(2):47-8. doi: 10.1016/S0899-3467(07)60001-9.
13. Budgell B. Guidelines to the writing of case studies. *J Can Chiropr Assoc* 2008;52(4):199-204.
14. White C, Lascelles-Palys F, Cashman G. Axillary-subclavian venous thrombosis following a weightlifting injury in an elderly patient: a case report. *J Can Chiropr Assoc* 2024;68(1):75-80.
15. Harmath D, Boynton E, Lejkowski P. Delayed diagnosis of osteodiscitis in an adolescent athlete: a case report. *J Can Chiropr Assoc* 2021;65(3):338-343
16. Kurman K, Romanelli A. Calcaneonavicular coalition: a case study of non-operative management in an adult patient. *J Can Chiropr Assoc* 2021;65(3):350-359.

Appendix

Consent Form for Case Report

Clinic / University: _____

Name of Investigator: _____

Investigator Contact: _____

You are being asked to allow the investigator named above to use information about your care to write a case report. Case reports are typically used to share new unique information experienced by a patient during clinical care that may be useful for other physicians and members of the health care community. A case report may be published in print and/or online for others to read, and/or presented at a conference. Please read this form carefully. Take your time to make your decision and ensure all your questions have been answered.

The investigator is obligated to protect your privacy and not disclose your protected health information (information about you and your health that identifies you as an individual e.g., name, date of birth, medical record number). When the case report is published or presented, your identity will not be disclosed. Although your personal information collected or obtained will be kept confidential and protected to the fullest extent of the law, there is a limited risk associated with this case report that could result in a loss of confidentiality by virtue of your unique experience.

You will not directly benefit from participating in this case report. However, the information will be shared with other health care professionals and may improve the care that is received by others in the future.

Allowing your information to be used in this case report will not involve any additional costs to you and you will not receive any compensation.

Taking part in this case report is your choice (voluntary). You may choose not to take part or you may change your mind until the case report is published. Once the case report is published, it will not be possible to withdraw it. Your decision will not result in any penalty or change in benefits to which you are entitled including the quality of care you receive.

You will be told about any new information relating to this case report that may affect you.

Your signature below means that you have read the above and had all questions related to it answered. This will permit the investigator to use your clinical information in a case report.

Name of Participant (Printed):

Participant Signature:

Caregiver Signature of Participant, if minor: _____

___ ___ / ___ ___ / 20 ___ ___

Date

Clinician Case Report Information Checklist

Informed Consent:

- 1. Did the patient provide informed consent for this case report? (*Include with submission*)
- 2. If you are still in contact with the patient, ask if they would be willing to write 1-2 paragraphs about their perspective on and response to their care and treatment(s).

Additionally, please detail:

- 3. The patient's **chief complaint**.
- 4. The patient's **medical history**.
- 5. The patient's **family history**.
- 6. The patient's **psychosocial history**.
- 7. Any **relevant genetic information or testing**.
- 8. Any **previous interventions administered and their outcomes**.
- 9. Any **significant physical exam findings**.
- 10. Any **significant clinical findings**.
- 11. Any **pertinent negative physical exam or clinical findings**.
- 12. Any **historical as well as current information from this episode of care with dates** of treatment/information – *Note: we are required to create a timeline of these details for the manuscript, dates **must** be included!*
- 13. Any **diagnostic tests performed** (e.g., physical exam, labs, imaging, surveys) as well as their results.
- 14. Any **diagnostic challenges** (e.g., access to testing, finances, cultural etc.)
- 15. **Your diagnosis, and relevant differential diagnoses**.
- 16. **Your prognosis** of their condition and/or improvement.
- 17. Any **therapeutic interventions** (e.g., manipulation, rehabilitative exercise, pharmacology, surgery, self-care, etc.).
- 18. Administration of therapeutic interventions (e.g., **frequency, dose,**

strength, duration).

- 19. Any **changes in the intervention, and the rationale behind the change.**
- 20. **All clinician and patient assessed outcome measures.**
- 21. Any **follow-up testing performed.**
- 22. **Intervention adherence and tolerability; *include how you assessed this!***
- 23. Any **adverse or unanticipated events.**
- 24. **In your words, what is unique about this case?**