

Clinical Case Reports, Case Series, Clinical Vignettes: Where Are We Today?

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Summary

In the past two or three decades, we have witnessed and built remarkable methodologies not only specific to the growing spectrum of clinical case reporting, but also diversified based on what we are doing, presenting, and evaluating as pertains to our daily experience with clinical cases. Yes, such endeavours are also research. This essay offers some direction on how to further develop and refine the clinical case reporting domain by subject, method, technique, and application.

1. Case Report

1.1. Does Clinical Case Reporting Really Mean Nothing (As The Author Believed in his Young Years)?

In the past two or three decades, reporting single clinical cases, case series, or clinical vignettes has garnered increased and diversified attention. During clinical rotations, varied statements such as “clinical case reports say nothing, because there are not enough of them ...” or “we must start somewhere, and clinical cases experience is a necessary and useful starting point to do more...” are often heard. The latter counts more than the former.

Case report periodicals and case presentations in broader content medical journals reflect a tendency presented in this position paper.

An ever-growing interest in methodology, focus, and subjects in medical case reporting, especially in the past generation is perfectly justified, relevant, and timely. Current literature supports this extremely relevant and laudable trend.

In clinical practice, research and communication today, clinical case

reporting relevance and interest in this domain increase remarkably while also refining and diversifying its methodology.

As an example, the topic itself is the subject of general reviews by several notable authors [1-9], in the Authors’ own publication bases under this specific title [10-12], as well as in coverage of broader topics and titles [13-15].

Writing Clinical Case Reports (CCRs) methodology has also been increasingly refined [16-27], and clinical vignettes writing follows [28].

1.2. What to present today in a clinical case report

A clinical case report is often initial information leading to a more expanded inquiry on [24]:

- unusual observations
- adverse responses to therapies
- unusual combinations of conditions leading to confusion
- illustrations of a new theory
- questions regarding a current theory
- personal impacts

Shouldn’t proponents of such an approach explain why this is so? A more specific methodology is required.

From Murad et al’s 29 views, let us also add as subjects of CCR and CSRs:

- new phenotypes or genotypes of disease
- recognising a known and common manifestation of a rare disease

- rare manifestations of a known and common disease
- describing a new pathogen (microbe, virus or environmental exposure)
- unknown adverse effects of an existing drug
- novel treatments for a known condition
- elucidating better possible mechanisms of disease
- reminding and educating
- improving the quality of what we are doing and know

Shouldn't proponents of such an approach explain why this is so? Given the nature of the information, a more specific methodology is also required.

Do we always know what are "known", "common", "rare", and "unusual" in the quantitative and more operational terms that clinical epidemiologists prefer? We need to look beyond "we have not seen it before" even though this is not always possible since clinical routine practice does not provide such information.

For Balinska and Watt³⁰, case reports and case series may also deal with:

- A neglected public health issue
- An unexpected treatment outcome
- A rare presentation of a common condition
- A rare condition
- An unusual treatment protocol
- An issue of differential diagnosis
- An ethical dilemma
- Case management of pedagogical value, or
- Advocacy for patient groups

1.3. Shouldn't Proponents of Such an Approach Explain Why This is So? And How Can They Do This in the Best Way Possible?

To these subjects, they also add:

- Management of complex cases with limited resources
- Re/emerging diseases with new disease patterns
- Proposing new models to improve the quality of care
- Justification of larger studies
- Conditions associated with cultural practices or ethnic groups
- Conditions associated with high mortality
- Cases showing success points or insufficiencies of the health system in place
- Cases on the management of multiple morbidities.

Shouldn't proponents of such an approach explain why this is so? We cannot proceed in such a way using a mainstream health research methodology, based on larger groups of observations, often to be formed, compared, analyzed, and interpreted.

Moreover, do we know what is a "new" disease pattern, "cultural practice", "success points" or "insufficiency" in a given health system?

These subjects of research are methodologically more than limited, especially in the domain of cause-effect relationships between good or bad effects of factors on health development or improvement or bad outcome. This kind of study does not belong here.

1.4. Are Clinical Vignettes Distinct from Case Analysis and Reports?

Clinical vignettes are another type of analysis of trainees' and other professionals' practices, measuring trainees' knowledge and clinical reasoning about specific clinical situations and trainees' skills in performing the tasks necessary to diagnose and care for the patient.³¹⁻³³ Situations in practice are "case reports". Case reports present cases. Clinical vignettes present and discuss clinical activities around clinical cases, their development, strengths, weaknesses, limitations, activities to correct. Their format differs from clinical case reports. They are also shorter than IMRAD articles and their methodology differs from clinical case reports presentations. They should not be confused with CCRs.

1.5. How is Clinical Case Information Reporting Today?

Currently, more attention continues to be focused on the structure and organization of clinical case information than on its content in light of the methodology of research in health sciences, largely based on clinical and fundamental epidemiology and biostatistics.

It appears that most information pertains to the structure (format, constituting elements) of a CCR. The proper content of CCR only follows.

The CARE Group² and the SCARE Group³⁴ propose a more extended checklist for a narrative format clinical case going beyond the most often quoted original six elements. The checklist includes:

- Title
- Keywords
- Abstract
- Introduction
- Patient information
- Clinical findings
- Timeline
- Diagnostic assessment
- Therapeutic intervention

- Follow-up and outcomes
- Discussion
- Patient perspective
- Informed consent, and
- additional information

As constituents of CCR and CCS information.

Overall, the methodological quality of case reports and case series 35 relies upon:

- explanatory questions,
- extent of investigation experience,
- adequate ascertainment of exposure,
- adequate outcome ascertainment,
- assessment of causality, and
- A kind of reporting allowing the replication of research.

This approach may be limited.

1.6. Is there something to add to a more classical medical research methodology? Thank you, philosophers!

It is stated less often that these elements are used as building blocks for the modern argumentation and critical thinking behind any kind of exchange of information in health sciences and professions, as originally proposed by SE Toulmin³⁶ (see also [37]).

The six basic elements of such a modern argument and argumentation are: (simplified popular language equivalents are in italics)

- Grounds, i.e. initial claim or impression introducing or possibly concluding an argument, “what brought us to all this?”, “what’s on our mind given the reality of...”
- a warrant, i.e. some kind of general rule accepting understanding, evidence, focused on plausibility, “does it make sense?”, “since as we see it...”
- backing, i.e. graded evidence based on past practical and clinical research experience, an “external evidence”, “what do we know about all this now”?, “because what we know ...”
- a qualifier, as quantification of our certainty or probability that the conclusion of an argument is correct, “how much do we know about all this?”, “once pros and cons are balanced...”
- our conclusions, argument claim as the synthesis of the above argument building blocks, “what can we say once we put all this together”, “as we stand for this ...” and
- rebuttals, i.e. existing exclusionary circumstances to specify further and enhance the validity of argument

Conclusions, “when all this is excluded”? “Unless this occurs...”

Such argument building blocks must be detected and interpreted to arrive at the best possible valid critical thinking, argumentation, conclusion, and further uses.

This way of looking at CCRs and CSRs³⁸⁻⁴⁰ adds to more traditional approaches. It is not an exception in our thoughts.

1.7. Is Clinical Case Reporting Something Special in the Domain of Health Research and Communication?

It is not. Clinical case research and reporting are nothing special in the health domain, except their focus, subject of attention, inherent limitations and extent of use.

Methodologically speaking, clinical as well as community health research may be solely descriptive (“what’s going on?”), analytical (“why is it so?”) or experimental (“what will happen if we do something with all this?”). A descriptive strategy is often the most appropriate for clinical case reporting: this is a limitation of the clinical case domain given the nature of cases. It is not the fault of the clinical case researcher and reporter. The consumer of information must take this reality into account.

Despite their methodological limitations, CCRs (like demonstrations of causal relationships and others) are subject to quantitative and qualitative methodological requirements based on clinical epidemiology or biostatistics, i.e. clinimetrics as outlined by AR Feinstein⁴¹ in 1987 and later.

1.8. What More Should Be Considered When Submitting a CCR or CSR for Publication?

Grapsa⁴² provides CCR authors with 15 tips, both technical and factual, like submitting the best version, following the author’s instructions wherever required by the CCR reporting journal, doing a literature search, physical examination, providing high quality imaging, creating a multi-panel central figure with many acronyms and abbreviations, adding a constructive and evidence-based Discussion section, specifying learning objectives of the CCR and making sure that the manuscript reads well.

1.9. How and Where Should Case Reports Be Published Today?

Case reports may be presented today in several ad hoc “case reports” journals or in other broader oriented health sciences periodicals [43-45]. Specific processes are required and presented by each journal.

Currently, there is no uniform guidance available for the above. Submitting Authors must align with the requirements of specific Editorial Boards and contact and consult them if needed.

1.10. How Can We Summarize The Current CCR Situation? What’s next?

Clinical case reporting has more recently developed into an increasingly important, better delineated domain. Its topics of interest, their specificity and limitations given the nature and the number of obser-

vations, require the use of a broad methodology for current health research as well as specific methodologies dictated by the above.

Uniqueness or infrequency of clinical cases requires qualitative building and evaluation. Measurement and quantification apply and are necessary for CCRs themselves, case by case. They are also necessary to create future case series in which cases share common characteristics wherever possible.

Clinical case studies are still not the subject of systematic reviews. This position paper is based on our opinion. More should be done in the clinical case reporting domain:

Do we now need a more complete and uniform methodology for clinical case reporting throughout the world?

Should it be generally acceptable and respected?

Do clinical vignettes require a similar approach and specific methodology?

Should such initiatives and activities be periodically evaluated for frequency and reason of use as is already generally done for occurrence studies, case-control and cohort studies or clinical trials elsewhere in health sciences research? Yes!

What will such applications provide to help us better understand and use CCRs?

Clinical case studies and reports are powerful generators of hypotheses about their frequency, causes, controllability, and further research, and they may be generators of more. We should know these as much as possible. By their nature, shouldn't we create a specific and broadly uniform and accepted methodology as we have already done elsewhere? We should. What do you think?.

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