

A Blueprint for Undergraduate Students to Work on Medical Cases

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ABSTRACT

Case reports refer to research designs that describe rare or unexpected observations in the clinical course of a single patient. They are valuable resources of novel information which may further lead to new research and advances in clinical practice. However, medical trainees are often unaware of the basic tenets, methodology and importance of presenting and reporting such unusual occurrences. They are also oblivious to the scope and significance of pursuing such endeavors in early days of their education. For undergraduate students, the experience of working on cases and publishing scientific manuscripts could prove vital in their understanding of scientific literature, while at the same time introducing them to world of medical research. This article provides a brief explanation of how students could begin their journey in this direction and develop a coherent understanding of Evidence Based Medicine

Keywords: Case reports, Medical students, CARE guidelines

*See End Note for complete author details

“Always note and record the unusual ... Publish it. Save it on a permanent record as a short, concise note. Such communications are always of value.” - William Osler

A case report is a detailed narrative that describes the symptoms, signs, diagnosis, treatment, and follow-up of a medical problem of an individual patient.¹ A case series is a descriptive study following a group of patients with a similar diagnosis or those who are undergoing a similar therapeutic or surgical intervention over a certain time period.² They usually describe an unusual or novel occurrence and although they lie at the bottom of the hierarchy of the Evidence Based Medicine Pyramid, they still remain one of the cornerstones of medical progress and provide key additions to the existing medical literature. The ground breaking association between thalidomide and phocomelia³ or that between intrauterine exposure of Diethyl stilbestrol (DES) and clear cell vaginal and cervical adenocarcinoma⁴ was initially reported as a case report. They generate hypotheses for researchers to further carry out observational and interventional studies on the reported issues. Unfortunately, abysmally few medical students receive a formal training regarding what constitutes a publishable case report.⁵

Tertiary care hospitals attached to medical colleges receive a large number of rare and previously unreported cases. Although relatively small, easy-to-write and less time-consuming, a major proportion of these cases never get published owing to the clinicians' busy schedules¹ – this is how participation of medical students in writing and publishing case reports comes as a win-win solution for all. The clinician can mentor the student to work up and write a formal case report while the students learn to pen down the article. The clinician and student both earn a publication, the student gains valuable experience and medical literature gets enriched for others to learn from. The flowchart in [Figure 1] explains the step by step approach for students to work on case reports.

If the professors encourage their students to report and publish rare cases which they encounter during their clinical postings, it would incentivize them to dive deeper into the different aspects of the case and the speciality, thus providing a glimpse of what that field has to offer. Students should bear in mind the importance of medical conferences where they could present their studies as research papers, posters or medical symposia. It gives students an opportunity to

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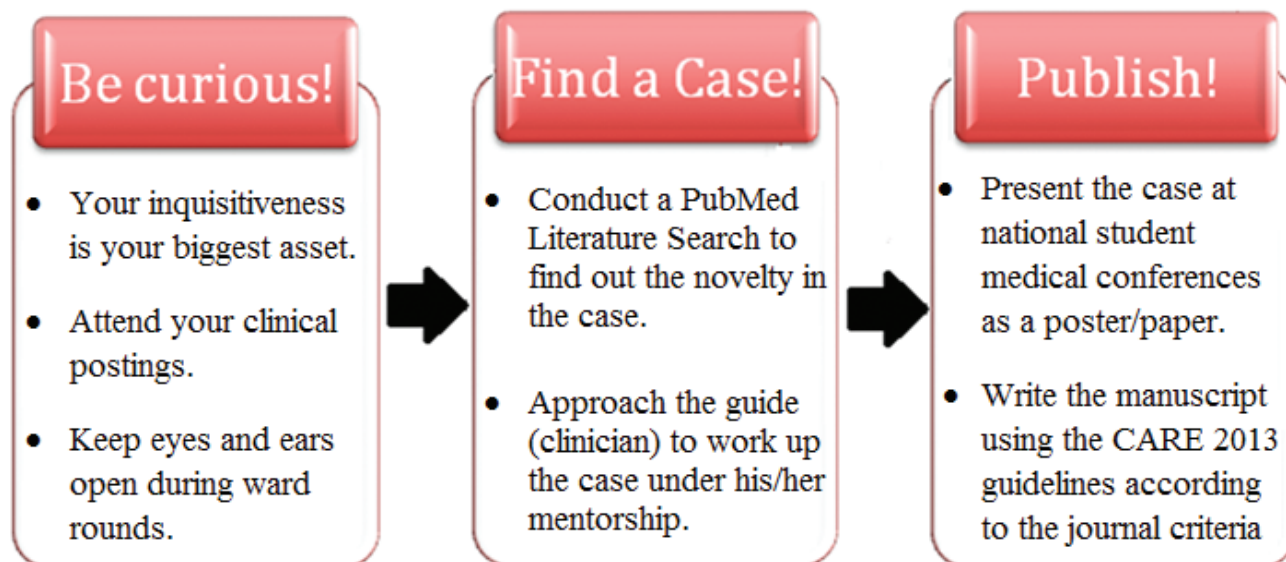


Figure 1. Steps explaining the process for medical students to work on case reports

not just showcase their work, but simultaneously hone their public speaking skills and also witness the kind of projects their peers are pursuing. Once presented at a few platforms, students could select a journal to publish their case. One must not compromise on the quality of reporting so as to hasten the process. It is imperative that students consult the CARE Guidelines [Figure-2], so as to increase the accuracy, usefulness and transparency of case reports, thus improving the quality of published data.⁷ Currently, awareness regarding these reporting guidelines is very poor even among senior authors.⁸ Students must also stay away from low quality predatory journals (journals which publish low quality, amateurish, and often unethical academic literature).⁹

A popular misconception amongst the students is that an interesting case can only be published as a case report. However, there are many other types of manuscripts that could be published instead, the information for which is provided in the 'Instruction to Authors' section of journal websites. Following is a list of manuscript types and their details where findings of a single case could be published in PubMed/MEDLINE indexed Medical Journals.

1. Clinical Images (Indian Journal of Medical Research, ICMR)¹⁰

Rare, educative cases could be presented under this section by a maximum of two authors per submission of whom, one should be a faculty member. A brief write up of around 125-150 words, without reference or running title, may be submitted, containing details of the department/institute and period of patient presentation, diagnosis, treatment and follow up. Clear and well

resolved images (up to 3-4 or as panels) and up to two videos not may be submitted along with the write up.

2. Case Snippets (Journal of Postgraduate Medicine)¹¹

Rare, novel and interesting cases can be reported with a write up not exceeding 700 words (5-6 references, 2 collated images). A case snippet does not include an abstract or sub headings and could be authored by a maximum of four authors.

3. Grand Round Case (Journal of Postgraduate Medicine)¹¹

Diagnostic and therapeutic approach to a particular case can be discussed in detail similar to a bed-side case presentation on a ward rounds. The article should not exceed the limit of 1500 words and include around 15 references. It could be authored by a maximum of four authors.

4. Clinicopathological Forum (Journal of Postgraduate Medicine)¹¹

In this category, diagnostic approach in a rare case where the diagnosis is arrived at by a pathological investigation could be reported. The maximum limit is up to 1500 words with around 15 references and can be authored by a maximum of four authors. The write up should include the following sections - Introduction, Clinical presentation, Investigations, Provisional Diagnosis, Management, Pathological findings and Differential diagnosis. One paragraph focusing on the contribution of pathology and its significance to the case should be included in the discussion section

Section	No.	CARE Guideline checklist
Title	1	The words “case report” and the area of focus should appear in the title (such as diabetes, a therapeutic approach, an outcome)
Key Words	2	2 to 5 key words that identify areas covered in this case report
Abstract	3a	Introduction—What is unique about this case? What does it add to the medical literature? Why is this important?
	3b	The patient's main concerns and important clinical findings
	3c	The main diagnoses, therapeutics interventions, and outcomes
	3d	Conclusion—What are the “take-away” lessons from this case?
Introduction	4	One or two paragraphs summarizing why this case is unique with reference to the relevant medical literature
Patient Information	5a	De-identified demographic and other patient specific information
	5b	Main concerns and symptoms of the patient
	5c	Medical, family, and psychosocial history including relevant genetic information (this should also appear in the timeline)
	5d	Relevant past interventions and their outcomes
Clinical Findings	6	Describe the relevant physical examination (PE) and other significant clinical findings
Timeline	7	Relevant data from the patient's history organized as a timeline
Diagnostic Assessment	8a	Diagnostic methods (PE, laboratory testing, imaging, surveys)
	8b	Diagnostic challenges (access, financial, cultural)
	8c	Diagnostic reasoning including other diagnoses considered
	8d	Prognostic characteristics when applicable (staging)
Therapeutic Intervention	9a	Types of intervention (pharmacologic, surgical, preventive)
	9b	Administration of intervention (dosage, strength, duration)
	9c	Any changes in the interventions (with rationale)
Follow-up and Outcomes	10a	Clinician and patient-assessed outcomes (when appropriate)
	10b	Important follow-up diagnostic and other test results
	10c	Intervention adherence and tolerability (how was this assessed)
	10d	Adverse and unanticipated events
Discussion	11a	Strengths and limitations in your approach to this case
	11b	Discussion of the relevant medical literature
	11c	The rationale for your conclusions (a causality assessment)
	11d	The primary “take-away” lessons from this case report
Patient Perspective	12	When appropriate the patient should share their perspective on the treatments they received
Informed Consent	13	Did the patient give informed consent? Please provide if requested

Figure 2. CARE 2013 checklist – Consensus-based Clinical Case Reporting Guideline Development⁶

5. ADR Forum (Journal of Postgraduate Medicine)¹¹

This section intends to publish write ups related to unusual, severe and serious adverse events related to use of drugs and devices in medical practice. While reporting ADRs, one must provide information about the name of the drug, dose and regimen used, temporal relationship between drug exposure and occurrence of adverse event, re-challenge and de-challenge, if undertaken, concomitant therapy amongst other things. This information may be provided in up to 800 words, including up to 8 references.

6. Clinicopathological conferences (National Medical Journal of India)¹²

These articles could have around 4000 - 5000 words and are essentially edited transcripts of the discussion of one particular patient (along with his clinical details) by a clinician, followed by the results of a definitive diagnostic test (such as a biopsy, autopsy, confirmatory serological test, etc.) discussed by a pathologist. Relevant radiological and histopathological images must be included along with the narrative.

7. Photo Essays (Indian Journal of Ophthalmology)¹³

Image based description and discussion of unique cases can be submitted under this section. It should contain a maximum of 300 words, an unstructured abstract of 150 words, 5 figures and up to 5 references.

8. Clinical Picture (The Lancet)¹⁴

These manuscripts showcase novel and interesting, educational images of medical cases, clinical signs, or investigations.

In addition to the above, there are multiple other platforms, national and global where findings of an interesting case could be published. Being short and easy manuscripts, students could decide to report and publish cases in the formative years of their education to understand the basics aspects of medical research and learn the art of writing literature before taking part in other larger studies with complex study designs and methodologies.

END NOTE

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