

Writing for publication: case studies

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Abstract: Case studies or case reports are valuable to complementary and alternative medicine practitioners as they contribute to the evolving evidence base and disseminate important clinical information. The format of these reports differs from journal to journal; however they normally contain the following components: introduction, case presentation, discussion and conclusion. Case studies are a neglected form of communicating clinical findings in complementary and alternative medicine and may be useful as a starting point to determine clinical relevance by providing information that may lead to more stringent investigation.

Key words case studies, case reports, complementary and alternative medicine

Introduction

Case studies or case reports are instrumental in increasing the body of medical knowledge and disseminating clinical information (Kienle 2012). They often propose new theories or hypotheses which other practitioners may attempt to replicate, or present new information which may lead to advances in research. A case series, i.e. a group of case studies in which people have been exposed to the same intervention (NHMRC 2009), also provides valuable clinical knowledge. Case series are considered level four evidence in the National Health and Medical Research Council's (NHMRC) research hierarchy (see Table 1) and as such are considered much less persuasive than data from clinical trials (NHMRC 2009). Despite this, case studies still have a key place in modern scientific literature and are often invaluable as a record of clinical interaction which helps refine hypotheses for more rigorous clinical studies (Budgell 2008).

Clinical research in complementary and alternative medicine (CAM) is an emerging field and all types

of research including clinical trials, health services research, cohort studies and case studies are contributing to an evolving evidence base. Whilst not negating the role of traditional knowledge, case reports allow for the formalisation of empirical evidence in an academic forum. They are a good way for clinicians to begin to be involved in scholarly writing and can be a valuable learning experience (Green & Johnson 2006).

What types of cases make good case studies?

There tend to be three main types of cases that are published as case reports – diagnostic or assessment reports, treatment or management reports and educational reports (Green & Johnson 2006). All may add valuable information to the current body of knowledge. Diagnostic reports tend to focus on the identification or evaluation of a case that is rare, confusing or difficult, and detail the methods used to ascertain a diagnosis. Reports that focus on management and treatment often include details of assessment and management, with a large focus on treatments and results. Finally, educational reports are used to provide practitioners with current practice

Table 1: NHMRC evidence hierarchy (NHMRC 2009)

Level	Intervention
I	A systematic review of level II studies
II	A randomised controlled trial
III-1	A pseudo-randomised controlled trial (i.e. alternate allocation or some other method)
III-2	A comparative study with concurrent controls: <ul style="list-style-type: none"> • Non-randomised, experimental trial • Cohort study • Case-control study • Interrupted time series with a control group
III-3	A comparative study without concurrent controls: <ul style="list-style-type: none"> • Historical control study • Two or more single arm study • Interrupted time series without a parallel control group
IV	Case series with either post-test or pre-test/post-test outcomes

strategies as well as a review of the literature. Other reasons to submit a case report might be to describe unusual interactions or adverse events, or to provide insight into the pathogenesis or mechanisms of a disease.

The different forms of case report all require slightly different styles but follow a general format which is detailed below. Essentially they are almost always retrospective, although prospective case studies allow for planning patient care and data collection ahead of time (Green & Johnson 2006).

Format

Title and abstract

The title should be as succinct and precise as possible. Generally titles fall into two categories – nominal and compound (Budgell 2008). A nominal title contains a single phrase, such as “A case report on the naturopathic management of diabetes mellitus type two”, whereas a compound title is made up of two phrases, for example “The naturopathic management of diabetes mellitus type two: a case study”. Whichever type of heading is used it should contain the words “case study”, “case report” or “case series” as appropriate.

An abstract should succinctly summarise the article. An abstract for a case study serves to overview the background of the condition and highlight the important features of the case. The abstract should be brief and concise - usually around 150 words for a case study, though this differs from journal to journal. The abstract will be available in the public domain and enables readers to decide if they want to access the whole article. It generally contains one or two introductory sentences, two or three sentences about the presenting case, one or two sentences about the chosen treatment(s), two to four sentences about the primary outcomes and one sentence describing any implications for practice. Some journals require their abstracts to be structured and some do not. Always check the requirements of the journal to which you are submitting.

Introduction

The introduction provides context for the case study and usually consists of background and a literature review. The background statement explains the relevance and purpose of the case study, conveying the article’s relevance and/or novelty to the reader (Dunning n.d.). A review of the current literature on the topic provides a framework for the reader and notes what is already known. If comparable cases have been described previously, they can be briefly summarised here (Budgell 2008), although it is important to keep this section focused. Overall the aim of the introduction is to give the reader a clear sense of the purpose of the case study.

Case presentation

This is where the patient is introduced to the reader.

This section should be concise and include all relevant history, signs and symptoms, physical examinations and pertinent laboratory results. It is important to be thorough and comprehensive but not to include unnecessary facts. Extreme care must be taken to protect the patient’s identity. Presentation may vary from case to case and from journal to journal however the following headings may be useful to order the information being offered.

- Background/demographics (age, gender, occupation for example) (Dunning n.d.).
- Health/medical history (precise dates should be avoided as they may aid in identifying the patient) (Cohen 2006).
- Medication history – this section should provide name, strength (e.g. herb-to-extract ratio), standardisation (if appropriate), dosage and route of administration of any medication. Brand names may be used, as each formulation may be extracted in a different fashion and contain different fillers and binders, leading to different bioavailability and metabolism (Cohen 2006). When products are mentioned always add the company’s name and address (city only) and when herbal medicines are utilised always use the full botanical name at the first mention and specify the part of the plant used. It may also be relevant to include the source of the plant raw material, where known.
- Patient’s diet (Cohen 2006).
- Primary complaint, including history of complaint, previous investigations and prior treatments (and the outcome of these treatments).
- Pertinent laboratory investigations and physical examination results.
- Working diagnosis and differential diagnosis (Leung & Seely 2009).
- Treatment decisions (Leung & Seely 2009) including any referrals.
- Methods used to monitor outcomes (Dunning n.d.).
- Primary outcomes of treatment (positive and negative) (Leung & Seely 2009).

Discussion

The discussion is the most important section (Cohen 2006). The discussion can elucidate the nuances and any thought-provoking pieces of information from the case. The significance of the case is outlined in this section however be careful not to merely repeat treatments and outcomes, but to apply critical thought and reflection to the case. The discussion should be contextualised by current literature if possible. The case may raise clinical questions and possible directions for future research - these can be described here if relevant.

Conclusion

A conclusion briefly summarises the key lessons that you learnt from the case study and describes implications for practice for health professionals (Leung & Seely 2009).

Other considerations

Consent

Patient anonymity is paramount and every effort must be made to preserve this. The patient's name, date of birth and address must be omitted or changed to help prevent identification. It is important to explain to the patient that all care will be taken to protect their identity but that it cannot be guaranteed, even though identifying details will be changed. Gaining consent from a patient to publish their medical history is proper etiquette and ethical medical practice (Leung & Seely 2009). Many journals also require a signed consent form to be completed by the patient. If the patient is a minor, parental consent must be gained.

Style

Writing medical case studies for academic publication contributes to the body of scientific literature and as such a certain writing style is generally used. Writing for publication must be clear and concise. Words and sentences should be used economically and verbose or long-winded descriptions or explanations avoided. The use of first person is also discouraged. The author must ensure that they adopt the target journal's formatting, word limit, referencing and style guide. Tables may be succinct ways of detailing information, which should not be repeated in the text itself (Cohen 2006). These must be properly titled and numbered.

Conclusion

Case studies are valuable contributions to the academic literature surrounding a topic, and are an especially useful way to continue to hand on traditional knowledge that would otherwise have been orally conveyed. They are a neglected form of communicating clinical findings in complementary and alternative medicine and could be useful as a means of formalising this knowledge. Additionally, they provide information that may lead to advances in research (Cohen 2006) and improve patient outcomes.

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