

A proposal of a standard structure and approach for Pharmaceutical Care Case Reports

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Abstract

Background: Case report is a scientific publication format with qualitative characteristic that describes diseases, rare conditions, complications, alternatives interventions, drug side effects, novelty management and/or results obtained of a patient. Pharmacists' clinical practice seems to be consolidated and is growing. However, there is an urgent need to communicate what is being done and how it is being done.

Aim: To evaluate case reports related to pharmaceutical care regarding its structure and approach and finally propose a logical standard structure and approach.

Methods: A systematic literature review using the terms "pharmaceutical care", "clinical pharmacy" and "pharmaceutical service" limited to a "case report" at MEDLINE, WEB of SCIENCE and SCOPUS data bases. The case reports identified fit into specific criteria of inclusion and exclusion criteria.

Results: Thirty four case reports matched the inclusion and exclusion criteria. The case reports evaluated point to no consensus on items to compose a case report structure. They all were incomplete in the identification of the pharmaceutical care process.

Discussion: There are some suggestions to the structure of case reports, but they were limited to the physician point of view and did not identify pharmacist clinical practice. To show the particularities of this practice it is necessary to utilize the practice language to reveal its specific approach. A proposal is subsequently presented and we try to clarify the important points to be addressed in the structure and the specific language to be utilized.

Conclusion: Pharmacists should use a standard structure and approach to present or publish case reports contributing to the academic and scientific community and effectively sharing clinical experience in a complete and uniform manner.

Keywords: *approach, case report; pharmaceutical care; structure*

Introduction

Case Report (CR) is a scientific publication format with qualitative (Vanderbroucke, 2001) characteristic which describes new disease, rare condition, complications, alternative interventions, side effects, novelty management and/or results obtained from a patient (McCarthy and Reilly, 2000). The aim of CR is to communicate scientific information to the academic community on several aspects that take place in patient's care not expected or previously reported (Vanderbroucke, 2001) and also to confirm previous results (Alfonso, 2000, Anwar et al., 2004). CR has been defined by many authors. For example, Coccia and Ausman (1987) define CR as "scientific observations" which are carefully documented, so they can serve as valuable source of information for education and research. On the other hand, Jenicek (apud Vanderbroucke, 2001) says that CR may have a considerable weak level of evidence, but frequently they are

the first line of evidence. He highlights "that is where everything begins". Whatever the definition, we must agree that CR is a source for new hypothesis generation (Morris, 1989). Finally, the reasons for CR publications are: a) to disseminate information (Anwar et al., 2004); b) to promote clinical thoughts (Wright and Kouroukis, 2000) and; c) to document a professional curriculum (Anwar et al., 2004).

Since 1990, pharmacists amplified their patients' drug related needs by practicing Pharmaceutical Care (PhC) (Hepler and Strand, 1990). All symptoms or undesirable events experienced by patients under drug treatment must be carefully investigated and classified into major categories: a) necessity, b) effectiveness, c) safety and d) compliance (Cipolle et al, 2004). It is important to report drug therapy problems, but most publications currently available usually do not allow the identification of drug therapy problems in a CR format (Kennie et al., 1998, Mayoral et al., 2005).

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However, most of the publications do not demonstrate the benefits of PhC practices. So, CR of PhC practice should describe exactly the patients' problems and how to manage them. In this way, CR publications should allow us to identify the "care element" defined by the PhC practice philosophy, a common element of any health care professional (Galt, 2000).

The building of a pharmacist's clinical practice seems to be consolidated and is growing today. However, there is an urgent necessity to communicate what is being done and how it's being done. Herein, we are proposing a logical structure and approach for CR publication of PhC practice.

Method

Systematic literature review was used to evaluate the structure and approach of pharmaceutical care case report, using the terms "pharmaceutical care", "clinical pharmacy" and "pharmaceutical service" limited to a "case report" at

MEDLINE, WEB of SCIENCE and SCOPUS data bases.

The inclusion criteria were: articles written as case reports, published after 1990 and English, Spanish and Portuguese language. The exclusion criteria were: had no pharmacist as author, no focus on follow up, case reports not found.

Results

Search results were found at Medline, Web of Science and Scopus, n= 87 articles. Of these 87, 45 were excluded and 8 were repeated between data bases. Only 34 matched the inclusion and exclusion criteria and were evaluated based on structure and approach. After analysis of these published papers on pharmaceutical care case report we observed that none of them had a standard structure and approach to show and discuss daily activities related to PhC practice which allowed the reader to have a perception of the "care element" (table I).

Table I: Summary of evaluated case reports.

Article	Structure	Approach: Pharmaceutical care process
Parker <i>et al.</i> , 2010	Without method item	Incomplete: only subjective and objective data and drug history. Associated words: clinical pharmacist, follow-up, monitoring.
Jen <i>et al.</i> , 2010	Without method item	Incomplete: only subjective and objective data and drug history
Bauters <i>et al.</i> , 2010	Without method item	Incomplete: only subjective and objective data and drug history. Associated words: pharmacist, formulation.
Griend <i>et al.</i> , 2009	Without method item	Incomplete: only subjective and objective data and drug history
Saldaña and Neiro, 2009	Without abstract and method item	Incomplete: only subjective and objective data and drug history. Associated word: follow-up
Haney <i>et al.</i> , 2009	Without method item	Incomplete: only subjective and objective data and drug history.
Machuca and Silva-Castro, 2009	Without abstract and method item	Incomplete: only subjective and objective data and drug history. Associated words: pharmacist evaluation, drug-related problem. Show the PhC process but do not classify the drug related problem.
Nguyen and Filson, 2009	Completely different from literature recommendation.	Incomplete: only subjective and objective data and drug history. Associated words: consultant pharmacist, medication-related issues, monitoring parameters, pharmacist evaluation
Laekeman <i>et al.</i> , 2008	Without method item	Incomplete: only subjective and objective data and drug history
Lounsbery <i>et al.</i> , 2008	Without method item	Incomplete: only subjective and objective data and drug history. Associated words: intervention (pharmaceutical advice) and follow-up.
Draper, 2008	Without method item	Incomplete: only subjective and objective data and drug history.
Wilffert <i>et al.</i> , 2007	Without method item	Incomplete: only subjective and objective data and drug history. Associated word: intervention.
Philbrick and Ernst, 2007	Without method item	Incomplete: only subjective and objective data and drug history. Associated words: intervention and follow-up.
Hawboldt and Bader, 2007	Without method item	Incomplete: only subjective and objective data and drug history.
Callen and Church, 2006	Without method item	Incomplete: only subjective and objective data and drug history
Phillips <i>et al.</i> , 2006	Without method item	Incomplete: only subjective and objective data and drug history. Associated words: intervention and follow-up.
Haidar <i>et al.</i> , 2004	Without method item	Incomplete: only subjective and objective data and drug history
Ikeda <i>et al.</i> , 2004	Without method item	Incomplete: only subjective and objective data and drug history.
Chamouni <i>et al.</i> , 2003	Without method item	Incomplete: only subjective and objective data and drug history. Associated words: monitoring and follow-up.
Wood <i>et al.</i> , 2002	Without method item	Incomplete: only subjective and objective data and drug history.
Dager and White, 2001	Without method item	Incomplete: only subjective and objective data and drug history.
Liu <i>et al.</i> , 2001	Without method item	Incomplete: only subjective and objective data and drug history. Associated words: pharmacy anticoagulation service, management of heparin therapy, pharmacy protocol.
Joss and LeBlond, 2000	Without method item	Incomplete: only subjective and objective data and drug history. Associated word: follow-up.
Birmingham <i>et al.</i> , 2000	Without abstract and method item	Incomplete: only subjective and objective data and drug history.
Doucette <i>et al.</i> , 2000	Without method item	Incomplete: only subjective and objective data and drug history.
Hunter <i>et al.</i> , 1999	Without method item	Incomplete: only subjective and objective data and drug history
Lau, 1998	Without abstract and method item	Incomplete: only subjective and objective data and drug history. Associated words: pharmacist's care plan, drug-related problem, therapeutic plan. Mentions the PhC process but do not classify the drug related problem.
Phillips and Muller, 1998	Without method item	Incomplete: only subjective and objective data and drug history. Associated words: intervention and follow-up.
Santeiro <i>et al.</i> , 1996	Without method item	Incomplete: only subjective and objective data and drug history
Sacks <i>et al.</i> , 1994	Without method item	Incomplete: only subjective and objective data and drug history.
Miller <i>et al.</i> , 1994	Without method item	Incomplete: only subjective and objective data and drug history.
Wade <i>et al.</i> , 1994	Without method item	Incomplete: only subjective and objective data and drug history. Associated words: therapeutic goals, intervention and follow-up.
Hunter, 1993	Without method item	Incomplete: only subjective and objective data and drug history.
Spinler <i>et al.</i> , 1993	Without method item	Incomplete: only subjective and objective data and drug history.

Discussion

Case report in terms of scientific evidence has no emphasis on methods so its structure is neglected. There are many guidelines in terms of CR structure as discussed by McCarthy and Reilly (2000) and most of scientific journals have different formats. Cohen (2006) describe how to write and publish CR emphasizing the patient's drug related events, but did not mention the need of following the pharmaceutical care process to show the patient's pharmaceutical evaluation. Nykamp and Compton (2011) wrote a paper as a guide for pharmacists to prepare CR for publication and, again, did not mention the patient's pharmaceutical evaluation. The International Committee of Medical Journal Editors (ICMJE - www.icmje.org) does not establish any specific structure for CR either. We are proposing the following structure and approach for pharmaceutical care case report:

Title: Should indicate in a sentence what the pharmaceutical problem is.

Authors/Filiations: Follow the ICMJE rules.

Abstract: Should provide: a) a general summary of the case reported into two or three sentences; b) the specific problem of case that motivated the authors to report; c) how it was handled, and; d) recommendations. Usually, suggesting a maximum of 250 words.

Introduction: Different from others types of scientific report what is in the interest of an introductory information for pharmaceutical care case report are: a) one sentence which calls attention to the magnitude of the problem and a clear statement explaining why the case should be reported; b) the most important findings on literature about the pharmaceutical problem to be reported (maximum of two paragraphs), and; c) the case presentation objective.

Method: A method description usually is not a necessarily section to be included in a CR. But, for PhC it is essential to know how the patient was evaluated to detect the problem. So, it should be included in this section, the period and place of practice characteristics in which the follow-up was done and which type of drug therapy problem classification was used (Bjorkman et al., 2008). It is important to show the reader how the literature was overviewed to solve the case problem. Besides of this, it is important to mention if the patient or familiar sing the informed consent.

Case Description: This section should be composed by a description of only documented information, usually found at the patient record, which is relevant for the case evaluation. It should be presented in a logical and chronological way and clarify all information about each disease manifestation at a given time. Note that, if the CR is about a patient with multiples diseases and medications, we recommend presentation of this data in a chart with the following items: the disease, pharmacotherapy and schedule of use. Where there is laboratory data, imaging investigations and other such like, it should also be presented in a summary chart highlight the altered results.

Pharmaceutical Care Process Description: This is a subsection of case description and should describe the problem experienced by the patient which motivated the case to be reported. It is important to emphasize the assessment strategy and mechanisms used by the pharmacist to identify

the drug therapy problem or pharmacotherapy problem (potential or real) and it should be classified according to a standard method. In this section, the care plan to solve the drug therapy problem with clear information about therapy aims (goals), interventions done and patient's follow up plan should be also described. As suggested by Cipolle et al. (2004), it is necessary to use a specific, concise and precise language witch allows the reader to visualize the Pharmaceutical Care Process and add this "new" care element.

Discussion: At this section is essential a literature review to document the scientific evidence to the decision making process and data which supports the identified drug therapy problem. Suppositions should be generated to guide the clinical thought and show what is different in the presented case.

Conclusion: consists of one paragraph which summarizes the findings which should be analyzed and if possible address a final recommendation for clinicians and further research.

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References: All bibliographic sources cited in the work and all technical information presented throughout the text must be properly referenced. It must be done according to the instructions of individual journal where the paper will be submitted.

Conclusion

Health care professionals contribute to disseminate information on unusual events using CR. Despite the experience of PhC practice over more than 20 years, it does not communicate enough in clinical experience to the academic and scientific community about pharmaceutical management by identification, prevention and resolution of drug therapy problem. It is imperative to contribute to the academic and scientific community in this field. The pharmacist as a health care professional should use a standard structure and approach to publish CR sharing effectively his/her clinical experience in an established publication style as suggested here.

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