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The impact of case reports in oral and maxillofacial surgery

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Abstract. This review examines the effect of publishing case reports on journal impact factor and future research. All case reports published in the four major English language oral and maxillofacial surgery journals in the two year period, 2007–2008, were searched manually. The citation data of each case report were retrieved from the ISI online database. The number, percentage and mean citations received by case reports and their relation to the 2009 journal impact factor were analysed. Case reports which received more than 5 citations were also identified and all of the citing articles retrieved and analysed. Thirty-one percent of all articles published in major oral and maxillofacial journals in 2007–2008 were case reports. Case reports had a low citation rate with a mean citation of less than 1. There were 38 (7.2%) case reports with more than 5 citations and 30% of the citing articles were also case reports. The publication of case reports negatively affected journal impact factor which correlated directly with the percentage of case reports published within a journal. Case reports reporting recent topics, describing new treatment/diagnosis method and with a literature review were more likely to receive citations.

Keywords: case report; citation; impact factor; oral and maxillofacial surgery.

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A case report (CR) is the documentation in the scientific literature of a single clinical observation.[1] CRs allow clinicians to share unusual, rare or new findings related to a disease or treatment, but they are considered to be the lowest level of evidence due to their anecdotal nature. With the increased advocacy of evidence based medicine (EBM), CRs are increasingly sidelined and assumed to have minimal impact on the management of patients. Advocates of CRs think they have significant value and impact within the medical literature.[2,3] Their potential roles include describing new diseases, describing new treatments of known diseases, identifying the aetiology or mechanism of disease, recognizing rare manifestations of disease, detecting adverse/beneficial drug side effects, medical education, and audit.[3]

Journal impact factor (IF) is a measure of the frequency with which the 'average article' in a journal has been cited in a particular year or period.[4] It was developed by the Institute of scientific information (ISI) in the 1960s primarily as a bibliometric tool to assist libraries in selecting relevant journals for their holding.[5,6] IF is derived by calculating the ratio between citations received in a particular year and the number of articles published in the two preceding years for a particular journal. IF increases with an increase in citations and a reduction in the number of articles published. The citation rates of CRs are often minimal[2,7] so most major journals restrict or do not accept CRs because they may lower journal IF.[1]

In the field of oral and maxillofacial surgery (OMS), CRs are generally published in all major journals of the specialty as a platform for sharing unusual events and treatments among peers. There are two important issues regarding CRs. The first, and most discussed, is the effect of publishing CRs on journal IF. Authors aim to publish in journals with the highest IF so that they are better rewarded by their institutions and research funding bodies. Journal editors seek to achieve the highest IF possible for their journal in order to attract the best manuscripts thus increasing the prestige of the journal and its parent organization or specialty. The second, more important but less prominent and less addressed, issue is the impact of CRs on the OMS specialty through their effect on future research and patient care in the long term. The aim of this study was to investigate both these aspects in order to

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describe the relevance of CRs to the OMS specialty.

Materials and methods

All CRs published in major English language OMS journals (Table 1) from January 2007 to December 2008 were searched manually by the first author. The period was selected to assess the current situation while also giving enough time for any citing article to be published. The CRs were identified by screening the title and abstract of all published articles in 2007 and 2008 within each journal. The full text of articles was retrieved when data from the title/abstract were insufficient to make a decision. Only articles meeting the predefined criteria (Table 2) were identified as CRs and included in the review.

All CRs identified within the study period were classified as either: rare disease or pathology (RDP); or new treatment or diagnostic method (NTD). The ISI citation received by each CR was then retrieved from the ISI online databases. All the citation data were collected during the first week of August 2011 to ensure minimal changes to the number of citations over the time it took to conduct the study. Two different citation data were collected: citations received by the CR article in 2009; and total citations received by the CR from the date it was citable to the date of data collection (August 2011). The first citation data were used to answer the first objective (effect of CRs on journal IF) and the total citation rate was used for the second objective (impact of CRs on the OMS specialty). The data were entered into an Excel table. Any disagreements about selection or categorization of articles were resolved by discussion between the authors. The flow chart of the methodology is shown in Fig. 1.

Table 1. Major OMS journals.

Major Oral & Maxillofacial Surgery Journals	2009 impact factor
Journal of Oral and Maxillofacial Surgery (JOMS)	1.580
International Journal of Oral & Maxillofacial Surgery (IJOMS)	1.444
British Journal of Oral & Maxillofacial Surgery (BJOMS)	1.327
Journal of Cranio-maxillofacial Surgery (JCMS)	1.252

Table 2. Criteria for inclusion in this review.

Case reports
1. No more than 5 patients
2. Full demographic and clinical background of each patient within the report
3. Must be citable by Institute for Scientific Information Web of Science (ISI)
4. Must be a full article (case reports within letters to editors, conference abstracts were not accepted)

Outcome measures

To assess the effect of publishing CRs on journal IF, the number/percentage of CRs published in each OMS journal and their relation to the journal IF were analysed. The relationships with IF were investigated in more detail by retrieving the total number and mean citations received by CRs in each OMS journal. The relation of type of CRs (RDP or NTD) and the effect of including a literature review in the CR on the citation rate were also investigated. CRs with the title containing the word 'review' were taken to include a literature review component within the article.

The impact of CRs on future research was determined by collecting data on the frequency in which CRs were cited from the day they were citable to the first week of August 2011. The number of citations was recorded. Subsequently, all CRs with more than 5 citations were selected and all of the citing articles retrieved. These CRs were categorized by topic and type (RDP or NTD). The citing articles were also examined regarding the type of study (randomized controlled trials (RCTs), systematic reviews (SRs), CRs, prospective study, retrospective case series, animal/laboratory study, editorial) by reviewing their title and abstracts and the citing journals IF. If more information was needed, the full text of the citing article was retrieved.

Results

The effect of CRs on journal IF

During the period of study (January 2007–December 2008), BJOMS published the highest percentage of CRs of their total number of published articles while JCMS published the lowest percentage (Table 3). Regarding the total number of CRs published, JOMS published the highest absolute number of CRs followed by BJOMS, IJOMS and JCMS (Table 3). When the number of citations received by CRs was examined, a direct relationship was noted between the number of CRs published within a particular journal and the number of citations received (Table 3). The journal with the highest number of CRs published had the highest overall citations of published CRs while the journal publishing the least number of CRs had the least overall citations of published CRs. When analysed in more detail, JCMS had the highest citation mean to the number of published CRs (0.82). This was followed by BJOMS, JOMS and IJOMS (Table 3). None of the journals' CRs citation mean reached the value 1.

When journal IF was analysed in relation to the percentage of published CRs, no direct relationship was seen. JCMS had the lowest IF even though it had the lowest percentage of CRs. BJOMS had the highest percentage of CRs but the IF was only slightly lower than IJOMS and JOMS. The authors further analysed the IF by subtracting the citations received by the CRs and the number of CRs published off the IF calculation (Fig. 2). This calculation would give rise to a hypothetical journal IF by excluding CRs from the calculation (Table 3). When the differences between the 2009 journal IF and the hypothetical IF were examined, it was noted that the differences were proportionate to the number and percentage of CRs published. The more CRs the journal publishes, the more the journal IF was dragged down.

When considering the category of cases described, CRs describing NTD consistently appeared to have more citations in all of the journals (Table 4). CRs describing RDP were further analysed to assess whether performing a literature review within the article improved the citation rate. Within the CRs describing RDP, the citation rate was better when a literature review was performed (Table 5).

Impact of CRs on the OMS specialty and future research

Overall there were 38 CRs with more than 5 citations. These citation data were based on citations received from the date the article was citable to the date the data were retrieved (first week of August 2011). Overall, 38 CRs were identified with JOMS having the highest number

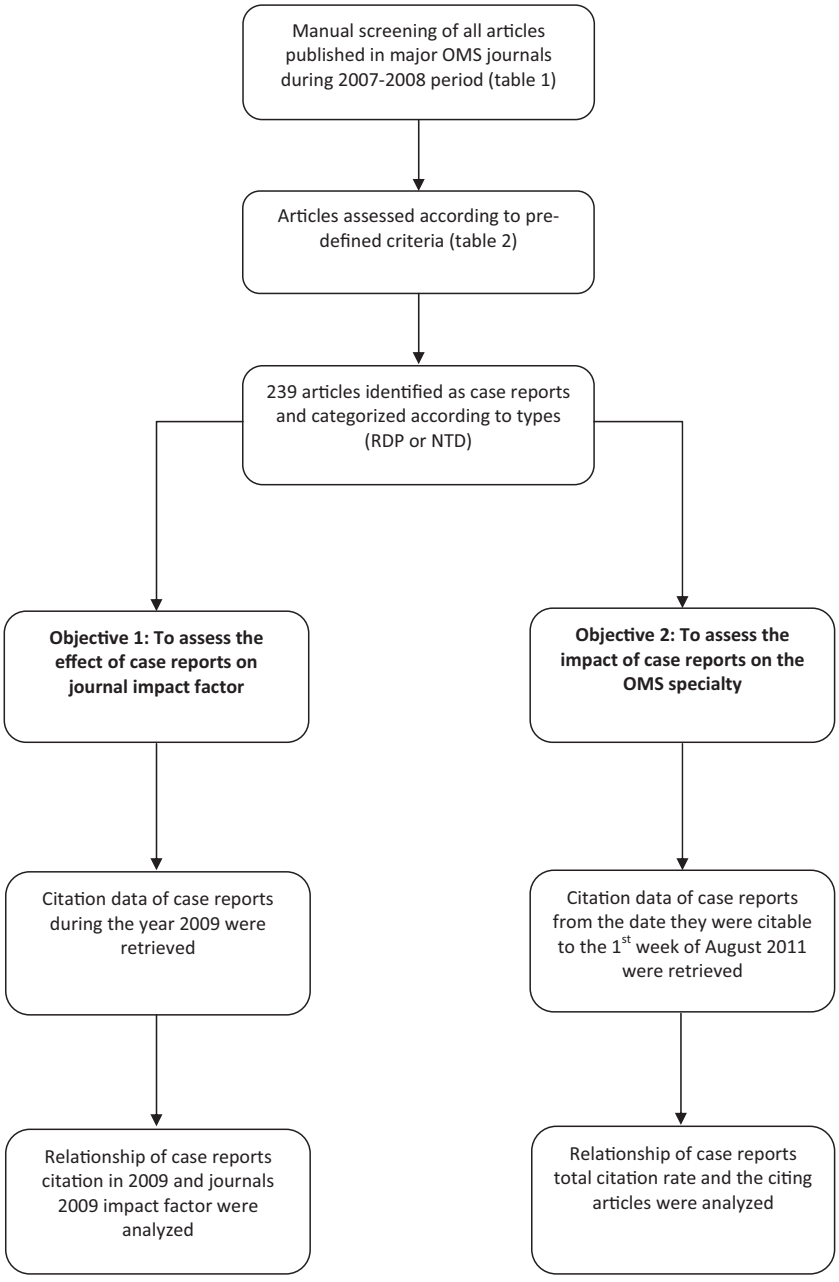

Fig. 1. Flow diagram of study methodology.

of these highly cited CRs (20 articles), followed by BJOMS (10 articles), IJOMS (6 articles) and JCMS (2 articles). These figures were proportionate to the number of CRs published within each journal. When analysed in more detail, there were 22 and 16 CRs describing RDP and NTD respectively (Table 6). This meant that only 7.2% (CRs cited > 5/total CRs 2007–2008) of CRs received more than 5 citations by August 2011 with CRs describing NTD having a higher chance (9.3%) of making an impact (cited > 5) compared to CRs describing RDP (6.2%).

127 (24.1%) CRs published during 2007–2008 had not been cited by the first week of August 2011. JCMS had the highest percentage while BJOMS had the lowest percentage of non-cited CRs (Table 6). CRs describing RDP had a higher chance of not being cited than CRs describing NTD.

For the highly cited CRs, the citing articles were reviewed and classified into type of study and citing journal IF (Table 7). Most of the citing articles were CRs (33.5%), narrative reviews (27.6%) and retrospective studies (14.5%). Less than 3% of citing articles were articles with a high level of evidence such as SRs (2.6%) and RCTs (0.3%). Regarding the IF of the citing journal, half of them had an almost similar IF (from 1.000 to 1.999). A further 30% of the CRs were cited by articles published in journals with IF of more than 2.000 (Table 7).

When the topics reported in published CRs were investigated, 7 (18%) of 38 of the highly cited CRs were related to bisphosphonate-induced osteonecrosis. Another 4 CRs (11%) were related to cone beam CT, 3 (8%) regarding malignant

Table 3. CRs in OMS journals and their impact on journal IF.

Journal	Year	CR articles	Total articles	CR/total article	Percentage CR/articles	Total CR citation 2009	Total article citation 2009	CR citation/ CR article	Mean CR citation	2009 IF	IF without CR	Difference	% difference
BJOMS	2007	64	171	64/171	39%	53	247	53/64	0.83	471/355 = 1.327	361/202 = 1.787	0.46	34.7%
	2008	89	184	89/184	48%	57	224	57/89	0.64				
	Total	153	355	153/355	43%	110	471	110/153	0.72				
IJOMS	2007	51	183	51/183	28%	39	353	39/51	0.76	553/383 = 1.444	491/276 = 1.779	0.335	23.2%
	2008	56	200	56/200	28%	23	200	23/56	0.41				
	Total	107	383	107/383	28%	62	553	62/107	0.58				
JCMS	2007	14	58	14/58	24%	14	88	14/14	1	154/123 = 1.252	132/96 = 1.375	0.123	9.8%
	2008	13	65	13/65	20%	8	66	8/13	0.62				
	Total	27	123	27/123	22%	22	154	22/27	0.82				
JOMS	2007	118	415	118/415	28%	95	843	95/118	0.81	1300/823 = 1.58	1160/584 = 1.99	0.41	26.0%
	2008	121	408	121/408	30%	45	457	45/121	0.37				
	Total	239	823	239/823	29%	140	1300	140/239	0.59				

ameloblastoma and another 2 (5%) regarding endoscopic assisted treatment

Discussion

EBM is defined as the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.[8] EBM hierarchy places SRs, meta-analyses and RCTs at the highest level of evidence while CRs are at the opposing end of the hierarchy.[9,10] Although considered low level evidence, CRs may well be the 'best available evidence' in clinical practice. Pitak-Arnnop et al. recently wrote an excellent review on the application of EBM in the OMS field in which they elaborated the misconceptions of EBM and the level of evidence within the OMS specialty.[11] In the era of IF, the issues of lack of citations received by CRs further undermines their value within the scientific community. Journals are increasingly limiting the publication of CRs, citing low quality evidence and negative effects on IF as reasons for their exclusion.[12]

There are many reasons for the continued publication of CRs. An important trait of CRs is their high sensitivity for detecting unexpected novelty.[3,13] CRs can also act as a catalyst for future research.[14] To fund a clinical trial for example, preliminary evidence must support a hypothesis, and most such preliminary evidence would come from CRs.[12,13,15] Other uses of CRs include providing opportunity for students, residents and fellows in training to polish their writing skills and engendering interest in academic work. CRs may serve as the 'best available evidence' in rare diseases and in the determination of the aetiology of some disorders.[12]

In attempting to understand how low quality evidence, such as CRs, could contribute to medical advances, it is worth noting that the aims of CRs are different from EBM.[3,13] Vandenbroucke in his editorial elegantly described the exact purpose of CRs in the current evidence driven climate.[13] He emphasized the function of CRs in the discovery of new hypotheses or ideas, while higher level evidence research such as RCTs, SRs or meta-analyses act to confirm these new hypotheses using maximum methodological quality research.[13] In rare diseases it would be almost impossible to carry out high level evidence research, thus CRs can still be the best available evidence to guide surgeons who encounter such situation. CRs thus act in a complementary manner within the current EBM environment.[3] A recent example of this complementary interaction can be seen in the publication of a number of case series (low level evidence) relating to the occurrence of bone necrosis in patients taking bisphosphonates in 2003.[16,17] Following these publications, over 1000 new articles have been published including high level evidence studies as recorded in MEDLINE when searched using the keywords 'necrosis and bisphosphonate and jaw'. That said, the current reality of the OMS literature shows that high quality evidence that can be produced by SRs, meta-analyses and RCTs is still lacking.[18] The probability that most CRs fail to induce new hypotheses for the realization of higher level evidence research therefore cannot be ruled out.

Despite their possible contribution to scientific advancement, CRs still suffer from low citations which affects journal IF. It has to be emphasized that low citation does not mean small readership. CRs are easily readable and understandable scientific material appreciated by practitioners.[19] The addition of a literature review to CRs adds further value as it provides background knowledge about the rare disease. It would be incorrect to relate a low journal IF solely to CR publications. It has been shown that the citation rate correlates directly with the study's level of evidence,[7] hence the known lack of high level evidence studies within OMS journals contributes directly to journal IF.[20]

In this review, the inclusion criteria ensured the homogeneity of CRs and the manual search of all articles by the first author also ensured that no CRs were missed in any journal section. The authors identified CRs as full articles, technical reports and even as letters to the editor in some journals. The period 2007–2008 was selected to give insight into the current pattern of publishing CRs within the journals and their effect on the 2009 journal IF. The authors avoided the more recent period of 2008–2009 and the 2010 IF to provide sufficient time for CRs to be cited so that the second study objective of determining the long term impact of CRs on OMS could be met. This allowed a period of at least 2 and half years to 4 years for CRs to be cited by August 2011 when the data collection was performed. The journals selected are the four most important OMS journals with leading IF and are the only ones specific to the OMS specialty. Selection of only articles with a maximum of five patients and presentation of each case separately within the articles aimed to ensure that the outcome or results of cases included in published CRs were

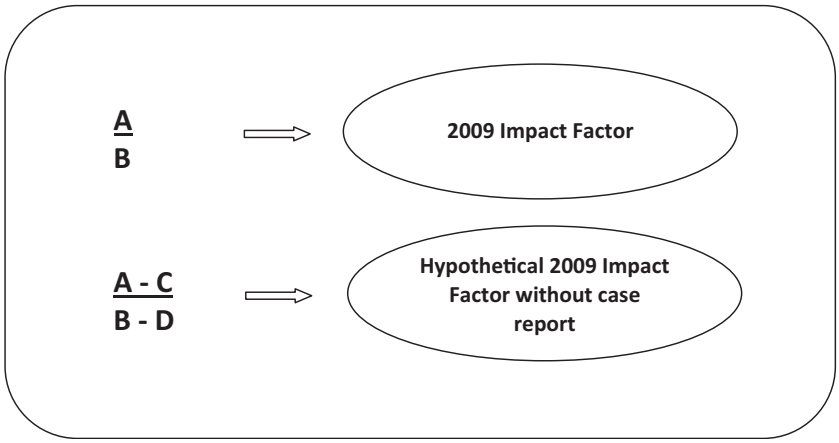

Fig. 2. Hypothetical IF calculation.
A – Total ISI citation in 2009 to articles published in 2007–2008; B – Total number of articles published in 2007–2008; C–Total ISI citation in 2009 to case reports published in 2007–2008; D – Total number of case reports published in 2007–2008.

not aggregated and that no attempts were made to investigate the variability of results which if performed would turn the CR articles into case series.[19] The selection of citable items only and full articles further ensured that only articles included as the numerator and denominator in the calculation of IF were selected. Thus CRs published as conference proceedings or located within a 'Letters to the Editor' section were excluded as they would not be included in the IF calculations.

Looking into the number/quantity of CRs published within the four major OMS journals, it was noted that CRs formed 31% of the total number of published articles during 2007–2008. This showed a similar pattern to the previous estimation by Lau and Samman who found that 24% of publications in 2002–2003 were CRs.[20] Their calculation included articles not utilized in the IF calculation. CRs in general practice and general medical journals are estimated to be about 7%.[21] When comparing journals, BJOMS published the highest percentage of CRs while JOMS had the highest absolute number of CRs.

In terms of citation numbers, CRs were poorly cited as noted in previous findings within the literature.[7] None of the journals had an average citation of over 1 which is lower than the IF of OMS journals (1.000–2.000). A mean citation of less than 1 will therefore negatively affect journal IF while a mean of 2 or more will positively impact the IF.

No relationship was seen between the percentages of CRs published within a journal and its IF. This finding could be explained by the self-citing of CRs in a summarizing review[22,23] or by publishing CRs as citable articles which are not included in the IF calculation such as publishing CRs in the 'Letters to the Editor' section.[24,25] A clearer picture of the effect of publishing CRs on journal IF can be seen when calculating a hypothetical IF by subtracting the citations received by CRs and the number of CR articles published from the IF calculation. From the hypothetical IF noted in this review, it can be observed that journals publishing the

Table 4. Citations of rare disease or pathology (RDP) and new treatment or diagnostic method (NTD) type CRs.

Journal		Number of CR articles	2009 cited	Total cited	Mean 2009	Mean total
BJOMS	Pathology	113	69	228	69/113 = 0.61	228/113 = 2.02
	Treatment/diagnosis	40	41	135	41/40 = 1.03	135/40 = 3.38
IJOMS	Pathology	69	38	116	38/69 = 0.55	116/69 = 1.68
	Treatment/diagnosis	38	24	71	24/38 = 0.63	71/38 = 1.87
JCMS	Pathology	13	10	38	10/13 = 0.77	38/13 = 2.92
	Treatment/diagnosis	14	12	30	12/14 = 0.86	30/14 = 2.14
JOMS	Pathology	159	82	321	82/159 = 0.52	321/159 = 2.02
	Treatment/diagnosis	80	58	206	58/80 = 0.73	206/80 = 2.58
Total	Pathology	354	199	703	199/354 = 0.56	703/354 = 1.99
	Treatment/diagnosis	172	135	442	135/172 = 0.78	442/172 = 2.57

Table 5. Citations of rare disease or pathology (RDP) with or without literature review.

Journal	Categories	Number of CR articles	2009 cited	Total cited	Mean 2009	Mean total
BJOMS	Lit review	4	3	12	3/4 = 0.75	12/4 = 3.00
	Nil	109	66	216	66/109 = 0.61	216/109 = 1.98
IJOMS	Lit review	9	5	15	5/9 = 0.56	15/9 = 1.67
	Nil	60	33	101	33/60 = 0.55	101/60 = 1.68
JCMS	Lit review	0	0	0	0	0
	Nil	13	10	38	10/13 = 0.77	38/13 = 2.92
JOMS	Lit review	42	27	114	27/42 = 0.64	114/42 = 2.71
	Nil	117	55	207	55/117 = 0.47	207/117 = 1.77
Total	Lit review	55	35	141	35/55 = 0.64	141/55 = 2.56
	Nil	299	164	562	164/299 = 0.55	562/299 = 1.88

Table 6. Characteristics of highly cited (>5 citations) and un-cited CRs.

Journal	Categories	Highly cited CR		Highly cited CR/ Total CR in journal	%	Non-cited CR		Highly cited CR/ Total CR in journal	%
		Number of CR articles	Total CR			Number of CR articles	Total CR		
BJOMS	Pathology	4	10	10/153	6.5%	17	18	18/153	11.8%
	Treatment	6				1			
IJOMS	Pathology	4	6	6/107	5.6%	22	31	31/107	29.0%
	Treatment	2				9			
JCMS	Pathology	2	2	2/27	7.4%	6	9	9/27	33.3%
	Treatment	0				3			
JOMS	Pathology	12	20	20/239	8.4%	44	69	69/239	28.9%
	Treatment	8				25			
Total	Pathology	22	38	38/526	7.2%	89	127	127/526	24.1%
	Treatment	16				38			
	Pathology	22/354 = 6.2%				89/354 = 25.1%			
	Treatment	16/172 = 9.3%				38/172 = 22.1%			

higher percentage of CRs had their IF affected the most. These findings also show that journal IF can be manipulated by several means to lessen the effect of publishing CRs on journal IF. By understanding the definition of numerator (citation of every type of article published) and denominator (only the articles that are deemed citable by ISI definition) in the calculation of IF, journal editors can easily manipulate their journal IF.[5,12] Publishing articles within the 'Letters to the Editor' section for example can increase the numerator but not the denominator. Since IF is often used to measure journal quality and prestige,[12,26] manipulating the numerator and denominator for IF calculation may be deemed acceptable by some. Such actions would also allow the continuation of publication of high value but low cited articles such as CRs. Brennan in his editorial expresses his belief that by not adopting 'tactics' that enhance the IF, the journal will be left behind in the chase for higher IF.[26]

There have been suggestions that certain types of CRs are more worthy of publication than others.[27] These include those CRs which report unique patients, new association of two or more conditions in one patient, unique variation from the expected pattern, unexpected evolution/complication of a disease and its management, and the single case design study.[27] In this review, CRs were broadly classified into RDP and NTD in an attempt to investigate the citation pattern of the type of CR. CRs describing NTD consistently had a higher citation rate overall and within each journal, a finding that may be explained by the surgical nature of the OMS specialty. The addition of the words 'literature review' or 'review' to the title of RDP-type CRs increased the citation of these articles. This suggests that the hybrid article composed of CR and a review gained significant traits of review articles which are known to receive higher citations.

An investigation of the impact of published material on a specialty is a difficult task to perform. Two main issues relevant to this task are to define what constitutes impact and the means by which such impact could be investigated. The use of the number of citations received or the number of times an article was downloaded would probably give an indication of the number of times the article was used in research or for reading material but remain a long way from measuring its real impact on patient care for example. This review attempted to investigate the impact of CRs on the specialty by examining whether these CRs stimulated any future study within the OMS literature. The authors used the ISI citation records as a measurement tool. The number of citations received was selected and used as an objective measurement of the frequency with which the specific published work was used.[7] Precisely how the published work was actually used remains unknown. Some article or study may be cited only for their findings or methodology or even to be criticized or dismissed.[7] These articles would therefore receive high citation for the wrong reasons. Citation of CRs by SRs or RCTs cannot be taken as directly stimulating such high level evidence research because they may be cited for other reasons. It is important to note that in the presentation of a rare disease, it would be impossible to follow up with a higher level evidence study due to the rare nature of the disease.[19] This could partially explain why most CRs, especially CRs describing RDP, would not be followed up by higher quality evidence study.

Overall, only 7% of CRs published during 2007–2008 received more than five citations by August 2011. The number of CRs that were not cited at all numbered more than three times those that were highly cited (>5 citations). When comparing OMS journals, the percentage of highly cited CRs was similar across all journals. There were marked differences in the percentage of uncited CRs in BJOMS compared to the other three major OMS journals. These were the result of self-citing CRs in a summarizing review as planned by the editors of BJOMS.[26] CRs describing NTD were likely to be cited more regularly and had less chance of not being cited, a finding that the authors think relates to the surgical nature of the specialty. The more important finding is that most of the CRs published in the major OMS journal were cited by other CRs. This is a worrying finding which shows that CRs within the OMS specialty apparently undergo never-ending circulation with the earlier CRs appearing to stimulate other authors to write a more recent CR with the pretext that cases seen by them are rare enough to be published. Narrative reviews were also the major citing source, a finding which can be explained by the fact that this type of review has a long list of references, but SRs and RCTs made up less than 3% of articles citing CRs. As the planning and conduct of RCTs require several years after obtaining the preliminary evidence (such as from CRs), the 3% finding is not suprising.[19] The lack of SRs or meta-analyses among the citing articles could also be explained in the same way. An

Table 7. Characteristic of articles citing the highly cited case reports.

Journal	Type of study (%)								Citing journal IF (%)			
	Editorial	Lab	Technical report	Case report	Retro-spective	Narrative review	Prospective	RCT	Systematic review	No IF	IF 0–.99	IF 1–1.99	IF > 2
BJOMS	0 (0.0)	11 (14.3)	3 (3.9)	29 (37.7)	8 (10.4)	23 (29.9)	2 (2.6)	0 (0.0)	1 (1.3)	2 (2.6)	14 (18.2)	48 (62.3)	13(16.9)
IJOMS	0 (0.0)	5 (12.2)	2 (4.9)	16 (39.0)	9 (22.0)	8 (19.5)	1 (2.4)	0 (0.0)	0 (0.0)	4 (9.8)	6 (14.6)	17 (41.5)	14 (34.2)
CMSJ	2 (9.5)	0 (0.0)	0 (0.0)	12 (57.1)	1 (4.8)	3 (14.3)	2 (9.5)	0 (0.0)	1 (4.8)	3 (14.3)	4 (19.1)	13 (61.9)	1 (4.8)
JOMS	12 (5.6%)	19 (8.9)	3 (1.4)	61 (28.6)	33 (15.5)	63 (29.6)	14 (6.6)	1 (0.5)	7 (3.3)	4 (1.9)	31 (14.6)	101 (47.4)	77 (36.2)
Total	14	35	8	118	51	97	19	1	9	13	55	179	105
	14/352	35/352	8/352	118/352	51/352	97/352	19/352	1/352	9/352	13/352	55/352	179/352	105/352
	4.0%	9.9%	2.3%	33.5%	14.5%	27.6%	5.4%	0.3%	2.6%	3.7%	15.6%	50.9%	29.8%

important finding of this review is that the subject of the CRs significantly affected their citation rate. Recent events or topics, such as osteonecrosis related to bisphosphonate and cone beam CT imaging usage made up almost 30% of the case reports that received more than 5 citations.

In summary, the publication of CRs remains relevant and the authors think should be continued for the reasons described. The correct lesson to learn from EBM is not to discard but how to use CRs in their proper role.[13] Authors and editors should take more responsibility to improve the standards and usefulness of these articles. When deciding to submit a CR, authors should consider the benefits of sharing their report with the OMS community. Editors should select articles reporting recent topics, describing NTD and including a literature review as these are more likely to receive citations and impact future research. This review confirms that the publication of CRs within OMS journals negatively affects journal IF in a manner closely related to the percentage of CRs published in that journal. Attempts to manipulate journal IF could play a part in reducing the effect of publishing CRs on journal IF but this action remains controversial and should be debated further.

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Competing interests

None declared.

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Not required.

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