Top 100 cited systematic reviews and meta-analyses in the major journals of oral and maxillofacial surgery: a bibliometric analysis

Essam Ahmed Almoraissi 1, Endi Lança Galvão 2, Nikolaos Christidis, Saulo 3, Gabriel Moreira Falci 3

1Assistant professor, Dept. of Oral and Maxillofacial Surgery, Faculty of Dentistry, Thamar University, Thamar, Yemen.

2Oral and Maxillofacial Section, School of Dentistry, Federal University of Vales do Jequitinhonha e Mucuri – UFVJM, Diamantina, MG, Brazil

3Division of Oral Diagnostics and Rehabilitation, Department of Dental Medicine, Karolinska Institutet, and Scandinavian Center for Orofacial Neurosciences, SE-141 04 Huddinge, Sweden

NOTE: This preprint reports new research that has not been certified by peer review and should not be used to guide clinical practice.
ABSTRACT

The aim of this bibliometric research was to identify and analyze the top 100 cited systematic reviews in the field of oral and maxillofacial surgery. Using the Web of Science-database without restrictions on publication year or language, a bibliometric analysis was performed for the five major journals of oral and maxillofacial surgery: International Journal of Oral and Maxillofacial Surgery, Journal of Oral and Maxillofacial Surgery, Journal of Cranio-maxillofacial Surgery, British Journal of Oral & Maxillofacial Surgery and Oral Surgery Oral medicine Oral pathology Oral radiology. The most top-cited systematic review was published in 2015 with a total of 200 citations on survival and success rates of dental implants, consistent with the finding that “pre- and peri-implant surgery and dental implantology”, and “craniomaxillofacial deformities and cosmetic surgery” were the most frequently-cited topics (22% each). The International Journal of Oral and Maxillofacial Surgery and Journal of Oral and Maxillofacial Surgery displayed have got most citations in total and in average per publication. The outcome of this article can be used as a source of information not just for researchers but also for clinicians and students, and of which areas have a large impact on the field of oral and maxillofacial surgery but cannot reflect the quality of the included systematic reviews.

Keywords: Bibliometrics, Citation Analysis, Oral and Maxillofacial Surgery, Systemic Reviews, Meta-Analysis
INTRODUCTION

Decision-making regarding all clinical decisions including choice of treatment is nowadays nationally and internationally based on evidence-based medicine in all fields of medicine such as dentistry and oral and maxillofacial surgery (OMFS) \(^1\), \(^2\). Randomized controlled trials (RCTs) have been considered the best and strongest study design to answer a specific clinical question, consequently being a guide to the decision making, described as an evidence-based approach. However, in most of the RCTs, a huge sample size is warranted to reach an outcome based on reliable statistics. Performing a RCT with a big sample size is a challenge for any researcher. To solve this problem, a study design called systematic review with meta-analysis was proposed. This type of research allows the researchers to agglutinate data extracted from many RCTs, in only one statistical analysis. Thus, this kind of statistical analysis can provide a more robust and stronger outcome/result about one specific clinical question. Besides that, there are tools to evaluate the quality of RCTs, in order to be able to do recommendations about this specific clinical issue. Therefore, presently systematic reviews and meta-analysis are graded with the highest quality level study design \(^3\).

Another type of research, used to show which impact publications have, is called “bibliometrics”. The first citation about bibliometrics was done by Pritchard in 1969 \(^4\). There are some publications on bibliometric analysis in the field of OMSF, but specified as facial trauma \(^5\), oral cancer \(^6\), and maxillofacial surgery \(^7\). The citation analysis is a type of bibliometrics which quantifies how many times a publication has been cited after its publication. This information can be efficient to use in order to evaluate which impact a publication has in a specific field, and therefore how important this publication is in the specific field. Thus, the more cited the publication is, the greater ability it has to influence
clinical decisions⁸. Furthermore, this analysis is an important tool to help the clinicians to identify the best publications in their field of action and to guide them in their decision making based on these publications.

After the millennial shift there was a huge increase in the number of published systematic reviews in medicine and dentistry. Specifically, in the field of OMFS the increase of published systematic reviews was observed after 2010. To our knowledge there are no studies aiming to investigate the most cited systematic reviews in the field of OMFS. Thus, after 10 years of worldwide research it is imperative to know how the systematic reviews are influencing the decision making in the field of OMFS, and to rank the most cited systematic reviews in order to provide a guidance to the clinicians acquisition of knowledge. The aim of this bibliometric research was therefore to identify and analyze the top 100 cited systematic reviews in the field of OMFS.

METHODS

The authors performed a bibliometric analysis of the top 100 most highly cited systematic reviews in the five major journals of oral and maxillofacial surgery namely: International Journal of Oral and Maxillofacial Surgery (IJOMS), Journal of Oral and Maxillofacial Surgery (JOMS), Journal of Cranio-maxillofacial Surgery (JCMS), British Journal of Oral & Maxillofacial Surgery (BJOMS) and Oral Surgery Oral medicine Oral pathology Oral radiology (TRIPLEO). A search was performed on 29th October 2020, using the Clarivate Analytics’ Web of Science database and there was no restriction on the publication year or the language of the manuscripts. The search strategy was “systematic review” OR “systematic reviews” OR “meta-analysis” OR “meta-analyses”. The results were organized in descending order of citation count.
Every systematic review was stratified into the following categories: dentoalveolar surgery, pre-implant surgery and dental implantology, traumatology, craniomaxillofacial deformities and cosmetic surgery, osteonecrosis of the jaws, pathology, reconstructive surgery, temporomandibular joint (TMJ), basic science research, and emerging technologies.

The most cited articles were analyzed regarding the following information: number of citations, publication year, journals, authors, number of authors, methodological design (systematic review or systematic review with meta-analysis), article topic, contributing institution and country. The country of origin and contributing institution of the article was defined by the address provided for the corresponding author. When the paper presented the same citation number the youngest was best ranked.

Number of articles and citations per article were graphed using the Statistical Package for the Social Sciences software (SPSS version 22.0).

RESULTS

The initial search identified 771 articles. The 100 top-cited systematic reviews on the OMFS field are listed by rank order based on the number of citations in Table 1. From a total of 100 systematic reviews only 37 presented meta-analyses. The number of authors ranged between one and 16 (mean 4.12 ± 2.31).

These articles have been cited a combined total of 5107 times. The most top-cited article was published in 2015 with a total of 200 citations. Based on the distribution of the 100 articles over the years and their citations per publication, the years 2000 followed by 2006 and 2007 were the most productive years (Figure 1). The earliest systematic review included in this bibliometric analysis was published in 2000 by Lee et al., in JOMS and
has been cited 98 times, while the most recently was published in 2018 by Starch-Jensen et al. \(^{11}\) in the IJOMS and has been cited 33 times. **Figure 2** illustrates the distribution of the 100 articles over the years.

The topics “pre- and peri-implant surgery and dental implantology”, as well as “craniomaxillofacial deformities and cosmetic surgery” were the most frequently cited topics (22% each) in the top 100 list (**Figure 3**). The first topic has a total of 1334 citations while the second topic has a total of 1162 citations.

There were 25 different countries of origin and 83 institutions responsible for the highly cited systematic reviews. The leading countries were The Netherlands and Italy with 12 manuscripts each, followed by the USA with 10 articles (**Figure 4**).

Overall, IJOMS was responsible for 2481 citations, JOMS for 1684, TRIPLEO for 380 citations, JCMFS for 307, and BJOMS for 255. The mean citation rate per published review followed the same pattern with IJOMS having a mean citation rate of 57.7 citations per review, JOMS 49.5 citations per review, TRIPLEO 47.5 citations per review, JCMFS 38.4 citations per review, and BJOMS 31.9 citations per review. Most of the manuscripts were published in the IJOMS and JOMS (**Figure 5**).

**DISCUSSION**

In the field of (dental)medicine, as in the other fields of science, there is wish reach out, to affect decisions, and to guide the reader in a decision making. \(^8\) Articles reaching more than 100 citations are considered classic, i.e. having a great impact \(^{12}\). However, to analyze and understand if the conducted research has any impact or affects decision making one has to analyze how and if the articles do reach out, and which impact they have in their research.
filed. To do that scientometrics, which is bibliometry in the field of science, is frequently used. This study used citation analysis, to identify the publications that have had the greatest impact in the field of OMFS. Although the field of OMFS is very wide, with diverse conditions and treatments, the main finding of this citation analysis indicates that there were only 7 systematic reviews that reached to 100 citations in the field of OMFS, among the included journals. This is in line with previous studies indicating that less 10% of the published articles reaches up to the status of classic articles.

Among the classic articles the top cited article was an Italian systematic review on longitudinal studies about the evaluation of survival and success rates of dental implants, published in 2015 but already up in 200 citations. Among top-three there was one more systematic review on dental implants also from Italy focusing on different alveolar bone augmentation procedures for implant placement, published in 2014 and has now reached 124 citations. It is not surprising that systematic reviews upon dental treatments are top ranked since dental implant surgery is the vast most common surgical procedure next to tooth extractions, in contrast to orthognathic surgery, tumors.

The second most cited was also a European (from The Netherlands) systematic review on three-dimensional image fusion processes for planning and evaluating orthodontics and orthognathic surgery, published in 2011 having 131 citations. All top-three systematic reviews were published in IJOMS, which is the top journal in the field of OMFS, being ranked in the first quartile (QR1). It has been shown that the journal impact factor answers for 59% of the variation in the number of citations. Therefore, it is not at surprising finding since most authors are interested in publishing papers in journals with high impact-factors, which also is considered an indication of high quality papers. Just outside top-three systematic reviews this citation analysis could show that systematic
reviews upon osteoradionecrosis from Hong Kong (112 citations)\textsuperscript{22} and Malaysia (100 citations)\textsuperscript{23}, as well as osteonecrosis from Germany (104 citations)\textsuperscript{24}. The same topics were also dominating the rest of the most highly cited systematic reviews.

It has previously been reported that the majority of the top ranked, top cited publications are produced in nations with better economic rankings \textsuperscript{16,25}. This was also found in this citation analysis indicating that most of the systematic reviews in the field of OMFS are produced in Europe and the US, as well as Hong Kong, with Italy as the most successful country.

One interesting factor is that the top ranked systematic reviews are all published after the year 2010, however not surprising since only 14 out of the 100 top cited were published in the decade 2000-2010. One common criticism on citation analysis reports is that the outcome is affected by the impact of time \textsuperscript{14}. This was, however, not the case in this report on the field of OMFS. In accordance with our results, previous studies have indicated that there are just a few citations the first years, with a peak of citations just before an article-age of 10 years \textsuperscript{26}.

Another aspect to consider is that only can be used to assess the impact the specific article has on its field by quantifying its recognition, the importance, and also perhaps how common or severe a condition might be, but it cannot reflect the quality of the content in the article \textsuperscript{20,21}. Therefore, it is of great importance to use the outcome of this article as a source of information not just for researchers but also for clinicians and students, and which areas have a large impact on the field of OFMS.
Figures legend

**Figure 1** – Number of citations per systematic review by year in OMFS

**Figure 2** – Time-pattern distribution of the 100 most cited systematic reviews on oral and maxillofacial surgery

**Figure 3** – Topics covered among the 100 most cited systematic reviews on oral and maxillofacial surgery

**Figure 4** - Country of author’s institute for 100 most cited systematic reviews

**Figure 5** – Most frequently cited journal

Table 1. The top 100 cited systematic review and meta-analyses in oral and maxillofacial surgery

ACKNOWLEDGEMENTS

- 

CONFLICT OF INTEREST

The authors declare no conflicts of interest.
Table 1. The top 100 cited systematic review and meta-analyses in oral and maxillofacial surgery.

| Rank | Author                        | Title                                                                                                                                                  | Publication Year | Journal | Institution                          | Citations |
|------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------|---------------------------------------|-----------|
| 1    | Moraschini V et al.          | Evaluation of survival and success rates of dental implants reported in longitudinal studies with a follow-up period of at least 10 years: a systematic review | 2015             | IJMOS   | Fluminense Federal University         | 200       |
| 2    | Plooij JM et al.              | Digital three-dimensional image fusion processes for planning and evaluating orthodontics and orthognathic surgery. A systematic review               | 2011             | IJMOS   | 3D Facial Imaging Research Group Nijmegen-Bruges | 131       |
| 3    | Milinkovic I et al.           | Are there specific indications for the different alveolar bone augmentation procedures for implant placement? A systematic review                         | 2014             | IJMOS   | Eastman Dental Hospital               | 124       |
| 4    | Milinkovic I, Cordaro L       | Incidence and prevention of osteoradionecrosis after dental extraction in irradiated patients: a systematic review                                         | 2011             | IJMOS   | University of Hong Kong               | 112       |
| 5    | Nabil S, Samman N             | Stability After Bilateral Sagittal Split Osteotomy Advancement Surgery With Rigid Internal Fixation: A Systematic Review                                 | 2009             | JOMS    | University of Geneva                  | 107       |
| 6    | Joss CU, Vassalli IM          | Treatment strategies and outcomes of bisphosphonate-related osteonecrosis of the jaw (BRONJ) with characterization of patients: a systematic review         | 2015             | IJMOS   | Universitiat Munich                   | 104       |
| 7    | Nabil S, Samman N             | Risk factors for osteoradionecrosis after head and neck radiation: a systematic review                                                              | 2012             | TRIPLEO | National University of Malaysia       | 100       |
| 8    | Lee JJ et al.                 | Survival of hydroxyapatite-coated implants: A meta-analytic review                                                                                     | 2000             | JOMS    | University of Washington              | 98        |
| 9    | Cheung LK, Chua HDP           | A meta-analysis of cleft maxillary osteotomy and distraction osteogenesis                                                                              | 2006             | IJMOS   | The University of Hong Kong           | 97        |
| 10   | Lau SL, Samman N             | Recurrence related to treatment modalities of unicystic ameloblastoma: a systematic review                                                           | 2006             | IJMOS   | The University of Hong Kong           | 96        |
| 11   | Colella G et al.              | Fine-Needle Aspiration Cytology of Salivary Gland Lesions: A Systematic Review                                                                        | 2010             | JOMS    | Second University of Naples           | 91        |
| 12   | Clementini M et al.           | Success rate of dental implants inserted in horizontal and vertical guided bone regenerated areas: a systematic review                                  | 2012             | IJMOS   | University Tor Vergata                | 90        |
| 13   | Ren YF, Malmstrom HS          | Effectiveness of antibiotic prophylaxis in third molar surgery: A meta-analysis of randomized controlled clinical trials                               | 2007             | JOMS    | University of Rochester               | 89        |
| 14   | Stokbro K et al.              | Virtual planning in orthognathic surgery                                                                                                              | 2014             | IJMOS   | Odense University Hospital            | 88        |
| 15   | Rickert D et al.              | Maxillary sinus lift with solely autogenous bone compared to a combination of autogenous bone and growth factors or (solely) bone substitutes. A systematic review | 2012             | IJMOS   | University Medical Center Groningen   | 78        |
| 16   | Goitio MC et al.              | Longevity of dental implants in type IV bone: a systematic review                                                                                      | 2014             | IJMOS   | Universidade Estadual Paulista        | 76        |
| 17   | Markiewicz MR et al.          | Corticosteroids reduce postoperative morbidity after third molar surgery: A systematic review and meta-analysis                                         | 2008             | JOMS    | Oregon Health and Science University  | 76        |
| 18   | Merkx MAW et al.              | Assessment of the value of anorganic bone additives in sinus floor augmentation: a review of clinical reports                                              | 2003             | IJMOS   | University of Nijmegen               | 71        |
| No. | Author(s) | Title of the Study | Year | Journal | Institution | Reference |
|-----|-----------|---------------------|------|---------|-------------|-----------|
| 41  | Saridin CP et al. | Bone scintigraphy as a diagnostic method in unilateral hyperactivity of the mandibular condyles: a review and meta-analysis of the literature | 2011 | IJOMS | VU University Medical | 46 |
| 42  | Troeltzsch M et al. | Clinical efficacy of grafting materials in alveolar ridge augmentation: A systematic review | 2016 | JCMS | University of Goettingen | 45 |
| 43  | Kyzas PA et al. | The treatment of mandibular condyle fractures: A meta-analysis | 2012 | JCMS | North Manchester General Hospital | 45 |
| 44  | Del Fabbro M et al. | Is autologous platelet concentrate beneficial for post-extraction socket healing? A systematic review | 2011 | IJOMS | University of Milan | 45 |
| 45  | Stableforth WD et al. | A systematic review of the role of immunonutrition in patients undergoing surgery for head and neck cancer | 2009 | IJOMS | Derriford Hospital | 45 |
| 46  | Khojasteh A et al. | Effects of different growth factors and carriers on bone regeneration: a systematic review | 2013 | TRIPLEO | Shahid Beheshti University of Medical Sciences | 44 |
| 47  | Jensen T et al. | Maxillary sinus floor augmentation with Bio-Oss or Bio-Oss mixed with autogenous bone as graft in animals: a systematic review | 2012 | IJOMS | Aarhus University Hospital | 44 |
| 48  | Verstraaten J et al. | A systematic review of the effects of bone-borne surgical assisted rapid maxillary expansion | 2010 | JCMS | Radboud University Nijmegen Medical Centre | 44 |
| 49  | Atieh MA | Diagnostic Accuracy of Panoramic Radiography in Determining Relationship Between Inferior Alveolar Nerve and Mandibular Third Molar | 2010 | JOMS | University of Otago | 43 |
| 50  | Dubois L et al. | Controversies in orbital reconstruction-I. Defect-driven orbital reconstruction: A systematic review | 2015 | IJOMS | University of Amsterdam | 42 |
| 51  | Agostini T et al. | Anterolateral thigh flap: Systematic literature review of specific donor-site complications and their management | 2013 | JCMS | CTO-AOUC, Department of Traumatology and Maxillofacial Surgery | 42 |
| 52  | Pirklbauer K et al. | Maxillomandibular Advancement for Treatment of Obstructive Sleep Apnea Syndrome: A Systematic Review | 2011 | JOMS | Medical University of Vienna | 41 |
| 53  | Moraschini V, Barboza EDP | Success of dental implants in smokers and non-smokers: a systematic review and meta-analysis | 2016 | IJOMS | Fluminense Federal University | 41 |
| 54  | Foresta E et al. | Pleomorphic adenoma and benign parotid tumors: extracapsular dissection vs superficial parotidectomy-review of literature and meta-analysis | 2014 | TRIPLEO | Catholic University Medical School | 41 |
| 55  | Pluimjers et al. | Mandibular reconstruction in the growing patient with unilateral craniofacial microsoma: a systematic review | 2014 | IJOMS | Erasmus University Medical Center | 40 |
| 56  | Guarda-Nardini L et al. | Synovial chondromatosis of the temporomandibular joint: a case description with systematic literature review | 2010 | IJOMS | University of Padova | 40 |
| 57  | Kelly MP et al. | Systematic Review and Meta-Analysis of Recombinant Human Bone Morphogenetic Protein-2 in Localized Alveolar Ridge and Maxillary Sinus Augmentation | 2016 | JOMS | University of Wisconsin School of Medicine and Public Health | 39 |
| 58  | Brignardello-Petersen R et al. | Is Adjuvant Laser Therapy Effective for Preventing Pain, Swelling, and Trismus After Surgical Removal of Impacted Mandibular Third Molars? A Systematic Review and Meta-Analysis | 2012 | JOMS | University of Toronto | 39 |
| 59  | Dubois L et al. | Controversies in orbital reconstruction | 2015 | IJOMS | University of Amsterdam | 39 |
| No. | Authors                  | Title                                                                 | Year | Journal            | Institution                                         | Page |
|-----|--------------------------|----------------------------------------------------------------------|------|--------------------|------------------------------------------------------|------|
| 60  | Goiato MC et al.          | Implants in the zygomatic bone for maxillary prosthetic rehabilitation: A systematic review | 2014 | IJMOS              | Araçatuba Dental School UNESP                       | 39   |
| 61  | Ata-Ali J et al.          | Do antibiotics decrease implant failure and postoperative infections? A systematic review and meta-analysis | 2014 | IJMOS              | Valencia University                                 | 39   |
| 62  | Brown JS et al.           | Systematic review of the current evidence in the use of postoperative radiotherapy for oral squamous cell carcinoma | 2012 | BJOMS              | University Hospital AintreeLowerLane                 | 39   |
| 63  | Klug C et al.             | Preoperative chemoradiotherapy in the management of oral cancer: A review | 2008 | JCMS               | Medical University of Vienna                        | 39   |
| 64  | Katsnelson A et al.       | Operative Management of Temporomandibular Joint Ankylosis: A Systematic Review and Meta-Analysis | 2012 | JOMS               | Harvard School of Dental Medicine                   | 36   |
| 65  | Kyzas PA et al.           | Use of Antibiotics in the Treatment of Mandible Fractures: A Systematic Review | 2011 | JOMS               | Blackburn Royal Infirmary                           | 36   |
| 66  | Patterson BM et al.       | Corticometries and Orthodontic Tooth Movement: A Systematic Review | 2016 | JOMS               | University of Sydney                                | 35   |
| 67  | Moraschini V et al.       | Implant survival rates, marginal bone level changes, and complications in full-mouth rehabilitation with flapless computer-guided surgery: a systematic review and meta-analysis | 2015 | IJMOS              | Fluminense Federal University                       | 35   |
| 68  | Chrcanovic BR et al.      | Immediately loaded non-submerged versus delayed loaded submerged dental implants: A meta-analysis | 2015 | IJMOS              | Malmö University                                    | 35   |
| 69  | Tsui WK et al.            | Bone anchor systems for orthodontic application: a systematic review | 2012 | IJMOS              | University of Hong Kong                             | 35   |
| 70  | Azarmehr I et al.         | Surgical Navigation: A Systematic Review of Indications, Treatments, and Outcomes in Oral and Maxillofacial Surgery | 2017 | JOMS               | Odense University Hospital                          | 34   |
| 71  | Aliko A et al.            | World Workshop on Oral Medicine VI: clinical implications of medication-induced salivary gland dysfunction | 2015 | TRIPLEO            | Tel-Aviv Sourasky Medical Center and Saliwell        | 34   |
| 72  | Rajmakers PG et al.       | Female Predominance and Effect of Gender on Unilateral Condylar Hyperplasia: A Review and Meta-Analysis | 2012 | JOMS               | VU University Medical Centre, de Boelelaan           | 33   |
| 73  | Rachidi S; et al.         | Melanotic Neuroectodermal Tumor of Infancy: A Systematic Review       | 2015 | JOMS               | Medical University of South Carolina                | 33   |
| 74  | Starch-Jensen T; et al.   | A systematic review and meta-analysis of long-term studies (five or more years) assessing maxillary sinus floor augmentation | 2018 | IJMOS              | Aalborg University Hospital                         | 33   |
| 75  | Pocaterra A. et al.       | Effectiveness of platelet-rich plasma as an adjunctive material to bone graft: a systematic review and meta-analysis of randomized controlled clinical trials | 2016 | IJMOS              | University of L’Aquila                              | 33   |
| 76  | Al-Moraisi EA et al.      | A systematic review and meta-analysis of the clinical outcomes for various surgical modalities in the management of temporomandibular joint ankylosis | 2015 | IJMOS              | Pontificial Catholic University of Rio Grande do Sul | 33   |
| 77  | Haas OL et al.            | Computer-aided planning in orthognathic surgery-systematic review       | 2015 | IJMOS              | Thamar University                                    | 33   |
| 78  | Lovelace TL et al.        | Management of radiotherapy-induced salivary hypofunction and consequent xerostomia in patients with oral or head and neck cancer: meta-analysis and literature review | 2014 | TRIPLEO            | Medical University of South Carolina                | 33   |
| 79  | Saltaji H et al.          | Maxillary Advancement With Conventional Orthognathic Surgery in         | 2012 | JOMS               | University of Alberta                               | 32   |
| No. | Authors | Title | Year | Journal | Institution |
|-----|---------|-------|------|---------|-------------|
| 80  | Tarsitano A et al. | Mandibular reconstructions using computer-aided design/computer-aided manufacturing: A systematic review of a defect-based reconstructive algorithm | 2015 | JCMS | University of Bologna |
| 81  | Adeyemo WL, Akadiri OA | A systematic review of the diagnostic role of ultrasonography in maxillofacial fractures | 2011 | IJMOS | University of Lagos |
| 82  | Agbaje JO et al. | Systematic review of the incidence of inferior alveolar nerve injury in bilateral sagittal split osteotomy and the assessment of neurosensory disturbances | 2015 | IJMOS | Catholic University Leuven |
| 83  | Hsieh YJ, Liao YF | Effects of maxillomandibular advancement on the upper airway and surrounding structures in patients with obstructive sleep apnoea: a systematic review | 2013 | BJOMS | Chang Gung Memorial Hospital |
| 84  | Molina-Solana R et al. | Current concepts on the effect of environmental factors on cleft lip and palate | 2013 | IJMOS | University of Seville |
| 85  | Al-Moraissi EA, Ellis E | What Method for Management of Unilateral Mandibular Angle Fractures Has the Lowest Rate of Postoperative Complications? A Systematic Review and Meta-Analysis | 2014 | JOMS | Thamar University |
| 86  | Al-Moraissi EA et al. | What surgical treatment has the lowest recurrence rate following the management of keratocystic odontogenic tumor?: A large systematic review and meta-analysis | 2017 | JCMS | Thamar University |
| 87  | Antonoglou GN, Sandor GK | Recurrence rates of intraosseous ameloblastomas of the jaws: A systematic review of conservative versus aggressive treatment approaches and meta-analysis of non-randomized studies | 2015 | JCMS | University of Oulu |
| 88  | Shah KSV, Ethunandan M | Tumour seeding after fine-needle aspiration and core biopsy of the head and neck - a systematic review | 2016 | BJOMS | University Hospitals Southampton |
| 89  | Breik O et al. | Mandibular distraction osteogenesis for the management of upper airway obstruction in children with micrognathia: a systematic review | 2016 | IJMOS | Royal Melbourne Hospital |
| 90  | Clementini M et al. | Immediate versus delayed positioning of dental implants in guided bone regeneration or onlay graft regenerated areas: a systematic review | 2013 | IJMOS | University “Tor Vergata” |
| 91  | Saltaji H et al. | Le Fort III Distraction Osteogenesis Versus Conventional Le Fort III Osteotomy in Correction of Syndromic Midfacial Hypoplasia: A Systematic Review | 2014 | JOMS | University of Alberta |
| 92  | Moraschini V et al. | Effect of autologous platelet concentrates for alveolar socket preservation: a systematic review | 2015 | IJMOS | Fluminense Federal University |
| 93  | Almeida RDC; et al. | Recurrence rate following treatment for primary multicystic ameloblastoma: systematic review and meta-analysis | 2016 | IJMOS | University of Pernambuco |
| 94  | Langton S et al. | Two-week rule in head and neck cancer 2000-14: a systematic review | 2016 | BJOMS | Royal Blackburn Hospital |
| 95  | Alienza G, Lopez-Cedrun JL | Management of obstructive salivary disorders by sialendoscopy: a systematic review | 2015 | BJOMS | Galician Agency for Health Technology Assessment |
| 96  | Taylor J et al. | World Workshop on Oral Medicine VI: a systematic review of the treatment of mucous membrane | 2015 | TRIPLEO | New York University College of Dentistry |
|   | Author(s) | Title | Year | Journal | Institution | Page |
|---|-----------|-------|------|---------|--------------|------|
| 97 | Voulgarakis A et al. | Outcomes of implants placed with three different flapless surgical procedures: A systematic review | 2014 | IJMOS | University Hospital of Freiburg | 27 |
| 98 | Li CJ et al. | Ultrasonography for Detection of Disc Displacement of Temporomandibular Joint: A Systematic Review and Meta-Analysis | 2012 | JOMS | Sichuan University | 27 |
| 99 | Leung YY et al. | Treatment Modalities of Neurosensory Deficit After Lower Third Molar Surgery: A Systematic Review | 2012 | JOMS | Prince Philip Dental Hospital | 27 |
| 100 | Joss CU et al. | Soft Tissue Profile Changes After Bilateral Sagittal Split Osteotomy for Mandibular Setback: A Systematic Review | 2010 | JOMS | Radboud University | 27 |
REFERENCES

1. Gogos C, Kodonas K, Fardi A, Economides N. Top 100 cited systematic reviews and meta-analyses in dentistry. *Acta Odontol Scand.* 2020;78(2):87-97.

2. Beterminia D, Sklavos A, Saha A, Hyam D. A 21-year analysis of the publication patterns and level of scientific evidence in three major oral and maxillofacial surgery journals. *Int J Oral Maxillofac Surg.* 2020.

3. Group OLoEW. CEBM develops, promotes and disseminates better evidence for healthcare. 2020; [https://www.cebm.net/category/open-evidence-reviews/](https://www.cebm.net/category/open-evidence-reviews/). Accessed Nov 9, 2020.

4. Pritchard A. Statistical bibliography or bibliometrics. *Journal of documentation.* 1969;25(4):348-349.

5. Tahim A, Patel K, Bridle C, Holmes S. The 100 Most Cited Articles in Facial Trauma: A Bibliometric Analysis. *J Oral Maxillofac Surg.* 2016;74(11):e2240-e2241-e2240 e2214.

6. Hassona Y, Qutachi T. A bibliometric analysis of the most cited articles about squamous cell carcinoma of the mouth, lips, and oropharynx. *Oral Surg Oral Med Oral Pathol Oral Radiol.* 2019;128(1):25-32 e26.

7. Aslam-Pervez N, Lubek JE. Most cited publications in oral and maxillofacial surgery: a bibliometric analysis. *Oral Maxillofac Surg.* 2018;22(1):25-37.

8. Mogull SA. Accuracy of cited "facts" in medical research articles: A review of study methodology and recalculation of quotation error rate. *PloS One.* 2017;12(9):e0184727.

9. Moraschini V, Poubel LA, Ferreira VF, Barboza Edos S. Evaluation of survival and success rates of dental implants reported in longitudinal studies with a follow-up period of at least 10 years: a systematic review. *Int J Oral Maxillofac Surg.* 2015;44(3):377-388.

10. Lee JJ, Rouhfar L, Beirne OR. Survival of hydroxyapatite-coated implants: A meta-analytic review. *Journal of Oral and Maxillofacial Surgery.* 2000;58(12):1372-1379.

11. Starch-Jensen T, Aluddlen H, Hallman M, Dahlin C, Christensen AE, Mordenfeld A. A systematic review and meta-analysis of long-term studies (five or more years) assessing maxillary sinus floor augmentation. *International journal of oral and maxillofacial surgery.* 2018;47(1):103-116.

12. Heldwein FL, Rhoden EL, Morgentaler A. Classics of urology: a half century history of the most frequently cited articles (1955-2009). *Urology.* 2010;75(6):1261-1268.

13. Schae P. Applied informetrics for digital libraries: an overview of foundations, problems and current approaches. *Historical Social Research/Historische Sozialforschung.* 2013:267-281.

14. Sengupta N, Sarode SC, Sarode GS, et al. Analysis of 100 most cited articles on forensic odontology. *Saudi Dent J.* 2020;32(7):321-329.

15. Dmytriw AA, Hui N, Singh T, et al. Bibliometric evaluation of systematic review and meta analyses published in the top 5 "high-impact" radiology journals. *Clin Imaging.* 2020;71:52-62.

16. Lai P, Liu YH, Xue JH, He PC, Qiu YQ. The 100 most-cited articles on aortic dissection. *BMC Cardiovasc Disord.* 2017;17(1):30.

17. Milinkovic I, Cordaro L. Are there specific indications for the different alveolar bone augmentation procedures for implant placement? A systematic review. *Int J Oral Maxillofac Surg.* 2014;43(5):606-625.
18. Elani HW, Starr JR, Da Silva JD, Gallucci GO. Trends in Dental Implant Use in the U.S., 1999-2016, and Projections to 2026. *J Dent Res.* 2018;97(13):1424-1430.

19. Royle P, Kandala NB, Barnard K, Waugh N. Bibliometrics of systematic reviews: analysis of citation rates and journal impact factors. *Syst Rev.* 2013;2:74.

20. Gondivkar SM, Sarode SC, Gadball AR, Gondivkar RS, Choudhary N, Patil S. Citation Classics in Cone Beam Computed Tomography: The 100 Top-Cited Articles. *Int J Dent.* 2018;2018:9423281.

21. Gondivkar SM, Sarode SC, Gadball AR, Gondivkar RS, Chole R, Sarode GS. Bibliometric analysis of 100 most cited articles on oral submucous fibrosis. *J Oral Pathol Med.* 2018;47(8):781-787.

22. Nabil S, Samman N. Incidence and prevention of osteoradionecrosis after dental extraction in irradiated patients: a systematic review. *Int J Oral Maxillofac Surg.* 2011;40(3):229-243.

23. Nabil S, Samman N. Risk factors for osteoradionecrosis after head and neck radiation: a systematic review. *Oral Surg Oral Med Oral Pathol Oral Radiol.* 2012;113(1):54-69.

24. Fliefel R, Tröltsch M, Kühnisch J, Ehrenfeld M, Otto S. Treatment strategies and outcomes of bisphosphonate-related osteonecrosis of the jaw (BRONJ) with characterization of patients: a systematic review. *Int J Oral Maxillofac Surg.* 2015;44(5):568-585.

25. Pena-Cristobal M, Diniz-Freitas M, Monteiro L, Diz Dios P, Warnakulasuriya S. The 100 most cited articles on oral cancer. *J Oral Pathol Med.* 2018;47(4):333-344.

26. Eom YH, Fortunato S. Characterizing and modeling citation dynamics. *PLoS One.* 2011;6(9):e24926.
