

Reporting inconsistency between published conference abstracts and article abstracts of randomised controlled trials in prosthodontics presented at IADR general sessions (#80845)

1

First submission

Guidance from your Editor

Please submit by **29 Jan 2023** for the benefit of the authors (and your token reward) .



Structure and Criteria

Please read the 'Structure and Criteria' page for general guidance.



Raw data check

Review the raw data.



Image check

Check that figures and images have not been inappropriately manipulated.

Privacy reminder: If uploading an annotated PDF, remove identifiable information to remain anonymous.

Files

Download and review all files from the [materials page](#).

2 Figure file(s)
3 Table file(s)
1 Raw data file(s)
4 Other file(s)



Structure and Criteria

Structure your review

The review form is divided into 5 sections. Please consider these when composing your review:

1. BASIC REPORTING
2. EXPERIMENTAL DESIGN
3. VALIDITY OF THE FINDINGS
4. General comments
5. Confidential notes to the editor

 You can also annotate this PDF and upload it as part of your review

When ready [submit online](#).

Editorial Criteria

Use these criteria points to structure your review. The full detailed editorial criteria is on your [guidance page](#).

BASIC REPORTING

-  Clear, unambiguous, professional English language used throughout.
-  Intro & background to show context. Literature well referenced & relevant.
-  Structure conforms to [PeerJ standards](#), discipline norm, or improved for clarity.
-  Figures are relevant, high quality, well labelled & described.
-  Raw data supplied (see [PeerJ policy](#)).

EXPERIMENTAL DESIGN

-  Original primary research within [Scope of the journal](#).
-  Research question well defined, relevant & meaningful. It is stated how the research fills an identified knowledge gap.
-  Rigorous investigation performed to a high technical & ethical standard.
-  Methods described with sufficient detail & information to replicate.

VALIDITY OF THE FINDINGS

-  Impact and novelty not assessed. *Meaningful* replication encouraged where rationale & benefit to literature is clearly stated.
-  All underlying data have been provided; they are robust, statistically sound, & controlled.
-  Conclusions are well stated, linked to original research question & limited to supporting results.



The best reviewers use these techniques

Tip

Example

Support criticisms with evidence from the text or from other sources

Smith et al (J of Methodology, 2005, V3, pp 123) have shown that the analysis you use in Lines 241-250 is not the most appropriate for this situation. Please explain why you used this method.

Give specific suggestions on how to improve the manuscript

Your introduction needs more detail. I suggest that you improve the description at lines 57- 86 to provide more justification for your study (specifically, you should expand upon the knowledge gap being filled).

Comment on language and grammar issues

The English language should be improved to ensure that an international audience can clearly understand your text. Some examples where the language could be improved include lines 23, 77, 121, 128 – the current phrasing makes comprehension difficult. I suggest you have a colleague who is proficient in English and familiar with the subject matter review your manuscript, or contact a professional editing service.

Organize by importance of the issues, and number your points

1. Your most important issue
2. The next most important item
3. ...
4. The least important points

Please provide constructive criticism, and avoid personal opinions

I thank you for providing the raw data, however your supplemental files need more descriptive metadata identifiers to be useful to future readers. Although your results are compelling, the data analysis should be improved in the following ways: AA, BB, CC

Comment on strengths (as well as weaknesses) of the manuscript

I commend the authors for their extensive data set, compiled over many years of detailed fieldwork. In addition, the manuscript is clearly written in professional, unambiguous language. If there is a weakness, it is in the statistical analysis (as I have noted above) which should be improved upon before Acceptance.

Reporting inconsistency between published conference abstracts and article abstracts of randomised controlled trials in prosthodontics presented at IADR general sessions

Guanru Wang^{Equal first author, 1, 2}, Junsheng Chen^{Equal first author, 1}, Honglin Li^{1, 2}, Cheng Miao^{1, 2}, Yubin Cao^{Corresp., 1, 3}, Chunjie Li^{Corresp. 1, 2}

¹ West China Hospital of Stomatology, Sichuan University, State Key Laboratory of Oral Diseases & National Clinical Research Center for Oral Diseases, Chengdu, Sichuan, China

² West China Hospital of Stomatology, Sichuan University, Department of Head and Neck Oncology, Chengdu, Sichuan, China

³ West China Hospital of Stomatology, Sichuan University, Department of Oral and Maxillofacial Surgery, Chengdu, Sichuan, China

Corresponding Authors: Yubin Cao, Chunjie Li

Email address: yubin.cao@qq.com, lichunjie@scu.edu.cn

Background. There is commonly a discrepancy between conference abstracts and published article abstracts in prosthodontic randomized controlled trials (RCTs), which may mislead the scholars those attend conferences. **Objective.** To identify the characteristics predicting inconsistency between conference abstracts and published article abstracts in prosthodontic RCTs. **Methods.** The conference abstracts of prosthodontic RCTs presented at the IADR general sessions from 2002 to 2015 were searched. Electronic searches of MEDLINE, EMBASE, Cochrane Library, and Google Scholar databases were conducted to match full-text publications for conference abstracts. Two investigators extracted basic characteristics and assessed the consistency and reporting quality independently and in duplicate. The linear regression model was used to analyze the predictors of inconsistency. **Results.** 147 conference abstracts were matched with published articles. Results for the secondary outcome measure, Statistical analysis, and Precision measure were less than 50% consistent, and even nearly 5% of the studies had opposite conclusions. Multiple linear regression analysis showed that three factors were correlated with lower inconsistency, including continent of origin ($p = 0.011$), presentation type ($p = 0.017$), and difference in reporting quality ($p = 0.013$). **Conclusion.** Conference attendees should cautiously treat the findings of the conference abstracts. Researchers should improve the precision of the information delivered at conferences. To explain the primary difference between conference abstracts and article abstracts is recommended for authors of RCTs.

Reporting inconsistency between published conference abstracts and article abstracts of randomised controlled trials in prosthodontics presented at IADR general sessions

Guanru Wang^{1,2,#}, Junsheng Chen^{1,#}, Honglin Li^{1,2}, Cheng Miao^{1,2}, Yubin Cao^{1,3,*}, Chunjie Li^{1,2,*}

¹ State Key Laboratory of Oral Diseases & National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, China.

² Department of Head and Neck Oncology, West China Hospital of Stomatology, Sichuan University, Chengdu, China.

³ Department of Oral and Maxillofacial Surgery, West China Hospital of Stomatology, Sichuan University, Chengdu, China.

These authors contributed equally to this work.

Corresponding Authors:

Yubin Cao (M.D, D.D.S, Ph.D.) or Chunjie Li (M.D, D.D.S, Ph.D.)

Address: No.14, Section 3rd, Renmin Nan Road. 610041. Chengdu, 610041, China.

Email: yubin.cao@scu.edu.cn (Yubin Cao); lichunjie@scu.edu.cn (Chunjie Li).

Reporting inconsistency between published conference abstracts and article abstracts of randomised controlled trials in prosthodontics presented at IADR general sessions

Abstract

Background. There is commonly a discrepancy between conference abstracts and published article abstracts in prosthodontic randomized controlled trials (RCTs), which may mislead the scholars those attend conferences.

Objective. To identify the characteristics predicting inconsistency between conference abstracts and published article abstracts in prosthodontic RCTs.

Methods. The conference abstracts of prosthodontic RCTs presented at the IADR general sessions from 2002 to 2015 were searched. Electronic searches of MEDLINE, EMBASE, Cochrane Library, and Google Scholar databases were conducted to match full-text publications for conference abstracts. Two investigators extracted basic characteristics and assessed the consistency and reporting quality independently and in duplicate. The linear regression model was used to analyze the predictors of inconsistency.

Results. 147 conference abstracts were matched with published articles. Results for the secondary outcome measure, Statistical analysis, and Precision measure were less than 50% consistent, and even nearly 5% of the studies had opposite conclusions. Multiple linear regression analysis showed that three factors were correlated with lower inconsistency, including

continent of origin ($p = 0.011$), presentation type ($p = 0.017$), and difference in reporting quality ($p = 0.013$).

Conclusion. Conference attendees should cautiously treat the findings of the conference abstracts. Researchers should improve the precision of the information delivered at conferences. To explain the primary difference between conference abstracts and article abstracts is recommended for authors of RCTs.

Keyword. prosthodontics; conference abstracts; inconsistency; discrepancy; congresses as topic

Introduction

Academic conferences are important for scholars to share scientific research achievements and research methods. The International Association for Dental Research (IADR) is an international dental academic organization, which was founded in 1920 and holds academic conferences every year. Scientists from all over the world will present their research plans or results to scholars and experts in the form of abstracts. However, a survey showed that the full publication proportion of dental conference abstracts is only 29.6% (Hua *et al.*, 2016). The reasons for the unpublished may be a lack of time to continue the study, the research still ongoing, etc (Sprague *et al.*, 2003; Ha *et al.*, 2008; Scherer *et al.*, 2015). At the same time, some scholars have found that the published articles are not completely identical to the abstracts presented at the conference (Chalmers, Frank & Reitman, 1990; van, 2017). Wu *et al.* found at least one discrepancy between the conference abstracts of European Association for Osseointegration and the published article abstracts in terms of title, statistical method, main results, and so on (Wu *et al.*,

2020). Therefore, the scientific validity and accuracy of the conference abstracts are controversial.

Randomised-controlled trials (RCT) are the gold standard in the field of evidence-based medicine (Clancy, 2002; Haynes, Devereaux & Guyatt, 2002; Pihlstrom et al., 2012) and the highest level of the Oxford evidence classification system (Luksanapruksa & Millhouse, 2016).

RCTs play an important role in guiding the clinical practice of prosthodontics. It can help doctors to make the best choice in terms of indications, treatment methods, and so on for specific patients (Brignardello-Petersen et al., 2014). However, many RCTs have unreasonable designs, improper statistical analysis, and incomplete descriptions of results (Hua et al., 2019; Qin et al., 2021), and even many RCTs have spins (Boutron et al., 2010; Guo et al., 2021), which reduces the quality and evidence level of RCTs.

There are many RCTs in the conference abstracts (Scherer, Langenberg & von, 2007; Scherer & Saldanha, 2019). Nevertheless, conference abstracts have not undergone a prepublication peer-review process (Schmucker et al., 2017), so it is questionable whether the findings of conference RCTs can be used to guide clinical practice. Of course, the inconsistency of conference abstracts before and after publication also reduces the authenticity and reliability of RCTs presented at conferences. How participants judge and identify reliable conference RCTs is an issue that needs to be addressed. Therefore, the purpose of this study is to investigate the discrepancies between published conference abstracts and article abstracts and explore the potential predictors related to their inconsistency.

77

78 **Materials & Methods**

79 **Selection of conference abstracts**

80 Prosthodontic RCT abstracts that were presented at the IADR General Sessions (2002–2015)
 81 were obtained directly from the official website (<https://iadr.abstractarchives.com/home>). We
 82 included a summary of the RCTs on therapeutic interventions that took place in the clinical
 83 context of prosthodontics, which targeted people. The exclusion criteria are non-RCT research,
 84 not human as the object of study, and diagnostic intervention, which has nothing to do with
 85 prosthodontics. In order to eliminate the impact of time on the full-text publication, and avoid
 86 too short an article that has not yet been published or appeared in the journal to cause bias to this
 87 study, we set the deadline for the publication of the article as December 31, 2020.

88 **Retrieval of the full text of matched articles**

89 The two investigators independently and in duplicate searched the following databases:
 90 MEDLINE (via PubMed), EMBASE (via OVID), Cochrane Library, and Google Scholar. There
 91 are no language restrictions on retrieval content. Before the formal retrieval, the consistency of
 92 the two investigators was determined by the pilot study: thirty conference abstracts that met the
 93 inclusion and exclusion criteria were randomly selected by online randomization software
 94 (<https://www.randomizer.org>), and then two investigators searched independently and
 95 synchronously. The consistency of the two searches was evaluated by Cohen's κ statistic and the
 96 overall κ statistic was 0.93, indicating excellent agreement between the two investigators. First,

the authors' names were entered individually. If multiple publications existed by a single author, probable keywords in the abstract were combined in the search. A potential match was considered when the conference abstract and the corresponding manuscript had at least one author in common. Then a further comparison was processed if the study hypothesis, intervention, and conclusion contained substantial similarities. The abstract was then treated as 'published'. This study included the publications with dates that were the closest to the conference. If a relevant citation was not found in any of the databases, the study was regarded as 'unpublished'. When the views of the two investigators were not in agreement, a third researcher was introduced to discuss and determine the results.

who are the two and the third investigator?

Data extraction

Data extraction was performed on retrieved published conference abstracts that met the criteria and sorted out independently and synchronously by the two investigators, and the results were counted in the excel table. The extracted data include date of presentation, continent of origin, presentation type (oral vs poster), number of authors, sample size, exact p value (yes or no), center (single-center vs multicenter), type of institution (Universities or Other institutions), number of affiliations, overall conclusion (positive, negative, neutral), and subspecialty focus. The consolidated standards of reporting trials for abstracts (CONSORT-A)(*Hopewell et al., 2008a; Hopewell et al., 2008b*) was scored for both conference abstracts and article abstracts. Each reported item was scored as one and the total score was calculated.

Evaluation of discrepancies

We investigated the discrepancies between conference abstracts and article abstracts. The discrepancies were evaluated independently and in duplicate by the two investigators. The evaluated items include title, first author, study objective, intervention, study duration, sample size, primary outcome, results for the primary outcome measure, results for the secondary outcome measure, statistical analysis, precision measure, and conclusion. In the event of controversies, the final results were discussed with the third investigator.

Data analysis

Demographic characteristics of published conference abstracts were first presented. After that, the relationship between the inconsistency of abstracts and potential predictors was analyzed by multiple linear regression analysis. The conference abstracts and article abstracts with the same research content were matched, and the reporting quality of the abstracts was compared by the paired t-test. Statistical analyses were conducted with STATA (Version 14.0, StataCorp, Texas, USA).

Results

A total of 10268 conference abstracts of IADR (2002-2015) were searched, the duplicated 6619 were removed, and 340 abstracts met the inclusion and exclusion criteria. Through the retrieval of the databases, 147 abstracts were finally published (Figure 1).

Of the 147 published conference abstracts, 18 (12.24 %) were presented in 2012, followed by 16 (10.88%) and 14 (9.52%) in 2010 and 2015, respectively, and only 4(2.72%), in 2004 and 2006.

Geographically, 54 (36.73%) of the published conference abstracts have been from Europe, accounting for the largest proportion, followed by North and South America, with 35 (23.81%), while Asia, Africa, and Australia have fewer published abstracts, with a cumulative total of 23 (15.65%). Poster presentations accounted for a higher proportion of published abstracts than oral presentations (57.14%vs 42.86%). The average number of authors, the average sample size, and the average number of affiliations were 5.57 ± 2.82 (1-21), 54.29 ± 47.92 (6-282), and 1.99 ± 2.41 (1-18) respectively. 103 (70.07%) conference abstracts had the exact p values; 133 (90.48%) abstracts were single-center studies, and 144 (97.96%) abstracts were conducted by universities. The conclusions of 85 (57.82%) abstracts were positive, followed by neutral 44 (29.93%) and negative (12.24%). In subspecialty focus, the largest number of published conference abstracts were about complete denture and overdenture and dental composites and adhesives, both of which had 37 articles, accounting for 25.17%. The second was implant-based prosthetics and temporomandibular disorders, 24 (16.33%) and 23 (15.65%), respectively. The least subspecialty focus was removable partial dentures, with only 5, accounting for 3.40% (Table 1).

Table 2 lists the discrepancies in 12 items of the 147 published abstracts, with the highest consistency of study objective (145,98.64%), followed by intervention and primary outcome, with 144 (97.96%) and 143 (97.28%), respectively. In the area of precision measure, only 43 (29.25%) were the same, while 31 (21.09%) were different, and 73 (49.66%) could not be compared, as 27 (18.37%) were mentioned only in the conference abstracts, 19 (12.93%) only in the journal abstracts and 27 (18.37%) in neither. Interestingly, the conclusions of 139 (95.24%)

abstracts were the same, but the conclusions of 7 (4.76%) abstracts were different, 2 (1.36%) abstracts were concluded by positive conclusions changed to negative ones, 2 (1.36%) abstracts were concluded by negative conclusions changed to positive ones, and even 3 (2.04%) abstracts were complete changed (Table 2).

The reporting quality of conference abstracts and article abstracts was evaluated through CONSORT-A. The results of paired t-test showed that the CONSORT-A score of the conference abstracts was 4.816 ± 1.239 , and the CONSORT-A score of the article abstracts was 4.429 ± 1.266 . There was a statistical difference in the overall average CONSORT-A score between the two groups (the difference was -0.388 , $95\% \text{ CI } \geq 0.585 \pm 0.191$, $p < 0.0002$) (Figure 2).

We compared the published conference abstracts with the article abstracts, quantified the inconsistency between them into 12 items in total, and some items had sub-items under them. The abstract was judged for each item. If the item of the conference abstract was consistent with that of the article abstract, the value was assigned to 1, and if it was inconsistent or could not be identified, the value was assigned to 0. The scores of the two were counted and calculated to obtain a gross score (0-12). The relationship between the gross score of inconsistency and potential predictors was analyzed by multiple linear regression, and the interference of confounding factors is eliminated at the same time. The results showed that only three of the six independent variables were correlated with the gross score, which were continent of origin ($p = 0.011$), presentation type ($p = 0.017$), and the absolute value of CONSORT-A difference ($p = 0.013$) (Table 3).

177

178 Discussion

179 The ultimate criterion to evaluate the quality of a conference abstract is whether it is published in
 180 a peer-reviewed journal. However, not all conference abstracts are available for
 181 publication(*Stranges et al., 2015; Chen et al., 2020; Hinrichs, Ramirez & Ameen, 2021*).In
 182 addition, *Uzung et al.* found that compared to conference abstracts, article abstracts had at least
 183 one minor difference in title or authorship and 65% of article abstracts had major differences in
 184 study conclusions, statistical analysis, etc(*Yoon & Knobloch, 2012*). The inconsistency led
 185 conference attendees to question the authenticity of the conference abstracts. We had a similar
 186 result in the prosthodontic RCTs.

187 The items with high consistency were study objective, intervention, primary outcome, and
 188 conclusion, which reached more than 95%. These items were the most basic framework and
 189 components of an RCT, and there was little chance of change after the study plan was
 190 established. However, it made us suspect that whether some authors changed the primary
 191 outcome and object to reach an ideal endpoint in the publications. Moreover, though rare, the
 192 credibility of conference abstracts may be decreased if conclusions of conference abstracts are
 193 changed or even reversed in the final publications.

194 Then, although the sample size was also a basic element of RCT, only 68.71% of the studies
 195 were consistent before and after publication. The sample size may be increased in the final
 196 publication due to the continuation of recruitment. However, it may be weird and uneasy to

there is also a possibility that some patient data may have been manipulated (omitted) to reach desired results (statistical significance, or lack thereof)

197 explain that the sample size is decreased. It may be attributable to that some patients should have
198 been excluded in the recruitment screening. But whatever, the authors should explain it clearly in

199 the final publication and avoid the misunderstanding of academic misconduct.

200 Items such as study duration, statistical analysis, results for the secondary outcome measure, and
201 precision measure could be timely adjusted according to the progress of the project, so there
202 were discrepancies before and after publication. However, for the transparency of publications,
203 we suggest the authors should report all the secondary outcomes, whatever in single or multiple
204 articles, or in the main text or supplementary materials. At least, all the secondary outcomes
205 reported in the conference should be included in the final publication.

206 The potential predictors related to the consistency of conference abstracts before and after
207 publication were analyzed by multiple linear regression, and the results showed that content of
208 origin ($p = 0.011$), presentation type ($p = 0.017$), and the difference in CONSORT-A scores ($p =$
209 0.013) were associated with consistency scores. The pre- and post-publication variability of
210 conference abstracts from all other continents was less than that of South America. The
211 inconsistency was more severe for poster-presentation abstracts than for oral-presentation
212 abstracts. This may be because compared to poster abstracts, oral presentation abstracts were
213 subjected to rigorous expert review and had higher study quality and scientific priority than
214 poster abstracts.

215 The larger difference between the CONSORT-A scores before and after publication, the greater
216 the discrepancies of the basic framework. It indicated that some items were only reported in the

conference or article abstracts. The results of the paired t-test showed higher reporting quality for conference abstracts than for article abstracts, yet the conclusion of Uzung *et al.* showed higher reporting quality for article abstracts than for conference abstracts(Yoon & Knobloch, 2012). We speculated that this may be attributable to the requirements of word limit and abstract structure. For example, the *Journal of Dental Research* limits 300 words for abstract while the IADR conference abstract does not.

Despite our results, previous studies also found the discrepancy may be resulted by disagreement among co-authors on the final articles(Sprague *et al.*, 2003). The difference of conflict of interest of project funds(Weiss & Davis, 2019) may also make changes in items such as the first author before and after the publication. Overall, the authors should report all the results in trials and explain why the final article is different from the conference version, to promote the scientific transparency.

There are still limitations in this study. First, this study only addressed prosthodontic RCTs in IADR general sessions. It may be different to infer whether our results could be generalized to other domains or subjects. Secondly, there may be articles published in the full text that were not included in the electronic database, such as local journals, or not published within the given time frame. However, our retrieval strategy is systematic and comprehensive, which ensures the most efficiency of full-text retrieval. The Cochrane review showed that the median publishing time of the RCT study was 18 months, and the publication rate decreased significantly after 3

years(*Scherer et al., 2018*). Our retrieval time was five years apart from the deadline for publication, so most articles could be published within the period.

Conclusions

There were multiple discrepancies between the published conference abstracts of RCTs and the article abstracts of the IADR general sessions in 2002-2015. The continent of origin, presentation type, and the CONSORT-A difference was correlated with inconsistency before and after publication. Conference attendees should cautiously treat the findings of the conference abstracts. Researchers should improve the precision of the information delivered at conferences. To explain the primary difference between conference abstracts and article abstracts is recommended for authors of RCTs.

Figure legends

Figure 1. Flow chart of published conference abstracts selection according to inclusion and exclusion criteria.

Figure 2. Difference of CONSORT-A score between conference abstracts and article abstracts.

Note: ***, $p < 0.001$

Acknowledgments

Not required

Funding

This work was supported by 2018 Sichuan University-Luzhou Municipal Government Strategic Cooperation Research (2018CDLZ-12).

Ethical Approval:

Not required.

Patient Consent:

Not required

Conflict of interest

None declared

References

Boutron I, Dutton S, Ravaud P, Altman DG. Reporting and interpretation of randomized controlled trials with statistically nonsignificant results for primary outcomes. *JAMA* 2010;303(20):2058-2064.

Brignardello-Petersen R, Carrasco-Labra A, Glick M, Guyatt GH, Azarpazhooh A. A practical approach to evidence-based dentistry: understanding and applying the principles of EBD. *J Am Dent Assoc* 2014;145(11):1105-1107.

Chalmers TC, Frank CS, Reitman D. Minimizing the three stages of publication bias. *JAMA* 1990;263(10):1392-5.

Clancy MJ. Overview of research designs. *Emerg Med J* 2002;19(6):546-9.

Chen J, Cao Y, Wang M, Gan X, Li C, Yu H. Analysis of conference abstracts of prosthodontic randomised-controlled trials presented at IADR general sessions (2002-2015): a

cross-sectional study of the relationship between demographic characteristics, reporting quality and final publication. *BMJ Open* 2020;10(2):e034635.

Guo F, Fang X, Li C, Qin D, Hua F, He H. The presence and characteristics of 'spin' among randomized controlled trial abstracts in orthodontics. *Eur J Orthod* 2021;43(5):576-582.

Haynes RB, Devereaux PJ, Guyatt GH. Clinical expertise in the era of evidence-based medicine and patient choice. *ACP J Club* 2002;136(2):A11-A14.

Ha TH, Yoon DY, Goo DH, Chang SK, Seo YL, Yun EJ, Moon JH, Lee YJ, Lim KJ, Choi CS. Publication rates for abstracts presented by Korean investigators at major radiology meetings. *Korean J Radiol* 2008;9(4):303-11.

Hopewell S, Clarke M, Moher D, Wager E, Middleton P, Altman DG, Schulz KF; CONSORT Group. CONSORT for reporting randomised trials in journal and conference abstracts. *Lancet* 2008a;371(9609):281-283.

Hopewell S, Clarke M, Moher D, Wager E, Middleton P, Altman DG, Schulz KF; CONSORT Group. CONSORT for reporting randomized controlled trials in journal and conference abstracts: explanation and elaboration. *PLoS Med* 2008b; 5(1):e20.

Hua F, Walsh T, Glenny AM, Worthington H. Thirty percent of abstracts presented at dental conferences are published in full: a systematic review. *J Clin Epidemiol* 2016;75:16-28.

Hua F, Sun Q, Zhao T, Chen X, He H. Reporting quality of randomised controlled trial abstracts presented at the SLEEP Annual Meetings: a cross-sectional study. *BMJ Open* 2019;9(7):e029270.

Hinrichs RJ, Ramirez M, Ameen M. The publication fate of abstracts presented at the Medical Library Association conferences. *J Med Libr Assoc* 2021;109(4):590-598.

Luksanaprukha P, Millhouse PW. Level of Evidence Descriptions With Examples. *Clin Spine Surg* 2016;29(4):156-7.

Pihlstrom BL, Curran AE, Voelker HT, Kingman A. Randomized controlled trials: what are they and who needs them? *Periodontol 2000* 2012;59(1):14-31.

Qin D, Hua F, Liang S, Worthington H, He H. The reporting quality of split-mouth trials in orthodontics according to CONSORT guidelines: 2015-19. *Eur J Orthod* 2021;43(5): 557-566.

Sprague S, Bhandari M, Devereaux PJ, Swiontkowski MF, Tornetta P 3rd, Cook DJ, Dirschl D, Schemitsch EH, Guyatt GH. Barriers to full-text publication following presentation of abstracts at annual orthopaedic meetings. *J Bone Joint Surg Am* 2003;85(1):158-63.

Scherer RW, Langenberg P, von Elm E. Full publication of results initially presented in abstracts. *Cochrane Database Syst Rev* 2007;(2):MR000005.

Scherer RW, Ugarte-Gil C, Schmucker C, Meerpohl JJ. Authors report lack of time as main reason for unpublished research presented at biomedical conferences: a systematic review. *J Clin Epidemiol* 2015;68(7):803-10.

Stranges PM, Vouri SM, Bergfeld F, Crain M, Jindal N, Erdbruegger M, Lindauer S, Mueller Z, Reich A. Pharmacy resident publication success: factors of success based on abstracts from a regional meeting. *Curr Pharm Teach Learn* 2015;7(6):780-786.

Schmucker CM, Blümle A, Schell LK, Schwarzer G, Oeller P, Cabrera L, von Elm E, Briel M, Meerpohl JJ; OPEN consortium. Systematic review finds that study data not published in full text articles have unclear impact on meta-analyses results in medical research. *PLoS One* 2017;12(4):e0176210.

Scherer RW, Meerpohl JJ, Pfeifer N, Schmucker C, Schwarzer G, von Elm E. Full publication of results initially presented in abstracts. *Cochrane Database Syst Rev* 2018;11(11):MR000005.

Scherer RW, Saldanha IJ. How should systematic reviewers handle conference abstracts? A view from the trenches. *Syst Rev* 2019;8(1):264.

van den Bogert CA, Souverein PC, Brekelmans CTM, Janssen SWJ, Koëter GH, Leufkens HGM, Bouter LM. Primary endpoint discrepancies were found in one in ten clinical drug trials. Results of an inception cohort study. *J Clin Epidemiol* 2017;89:199-208.

Weiss GJ, Davis RB. Discordant financial conflicts of interest disclosures between clinical trial conference abstract and subsequent publication. *PeerJ* 2019;7:e6423.

Wu X, Yan Q, Riley P, Hua F, Shi B, Glenny AM, Tu YK. Abstracts presented at the European Association for Osseointegration (EAO) Congresses: Publication fate and discrepancies with full-length articles. *Clin Oral Implants Res* 2020:715-726.

Yoon U, Knobloch K. Assessment of reporting quality of conference abstracts in sports injury prevention according to CONSORT and STROBE criteria and their subsequent publication rate as full papers. *BMC Med Res Methodol* 2012;12:47.

Figure 1

Flow chart of published conference abstracts selection according to inclusion and exclusion criteria.

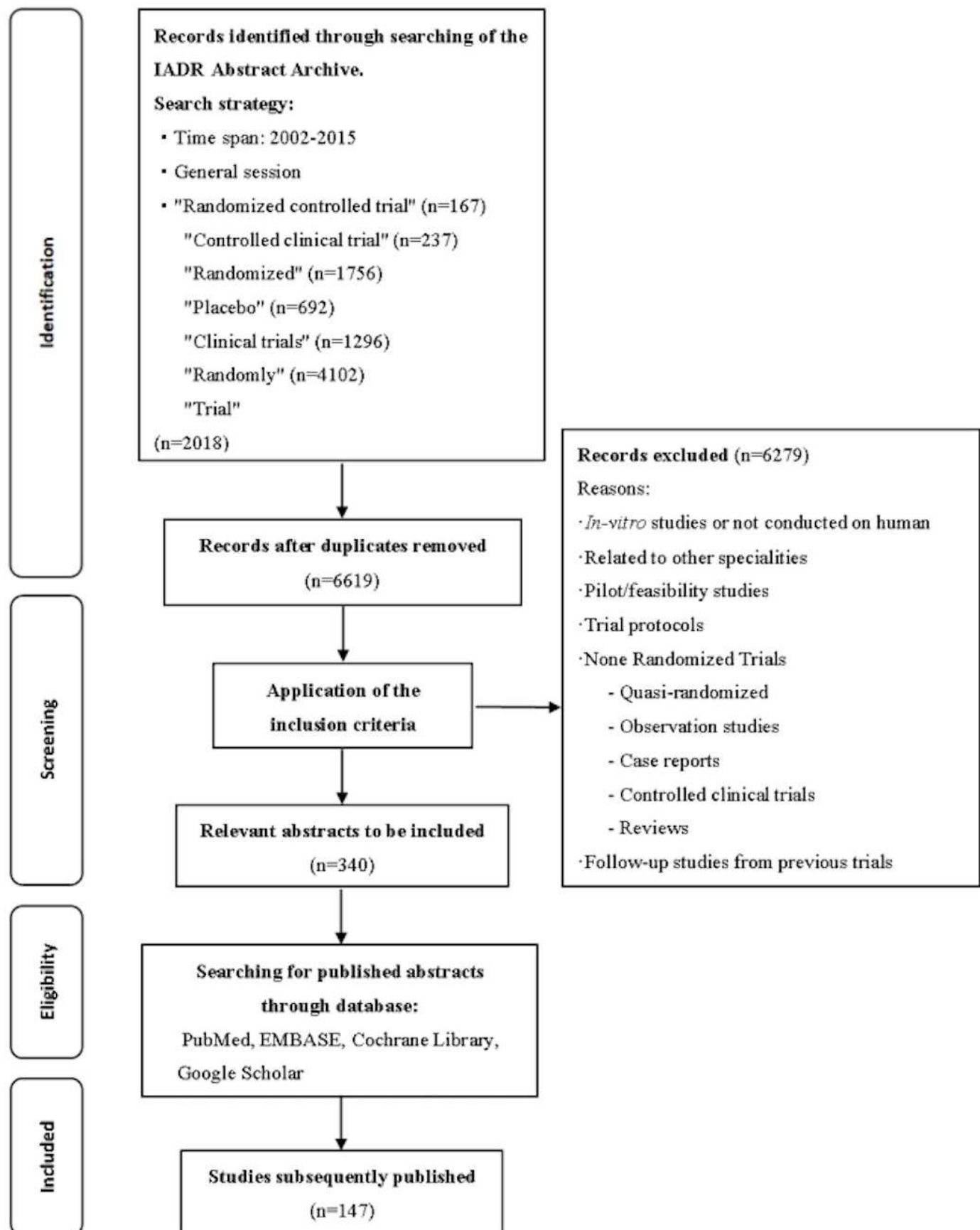


Figure 2

Paired t-test between conference abstracts and article abstracts

Note: ***, $p < 0.001$

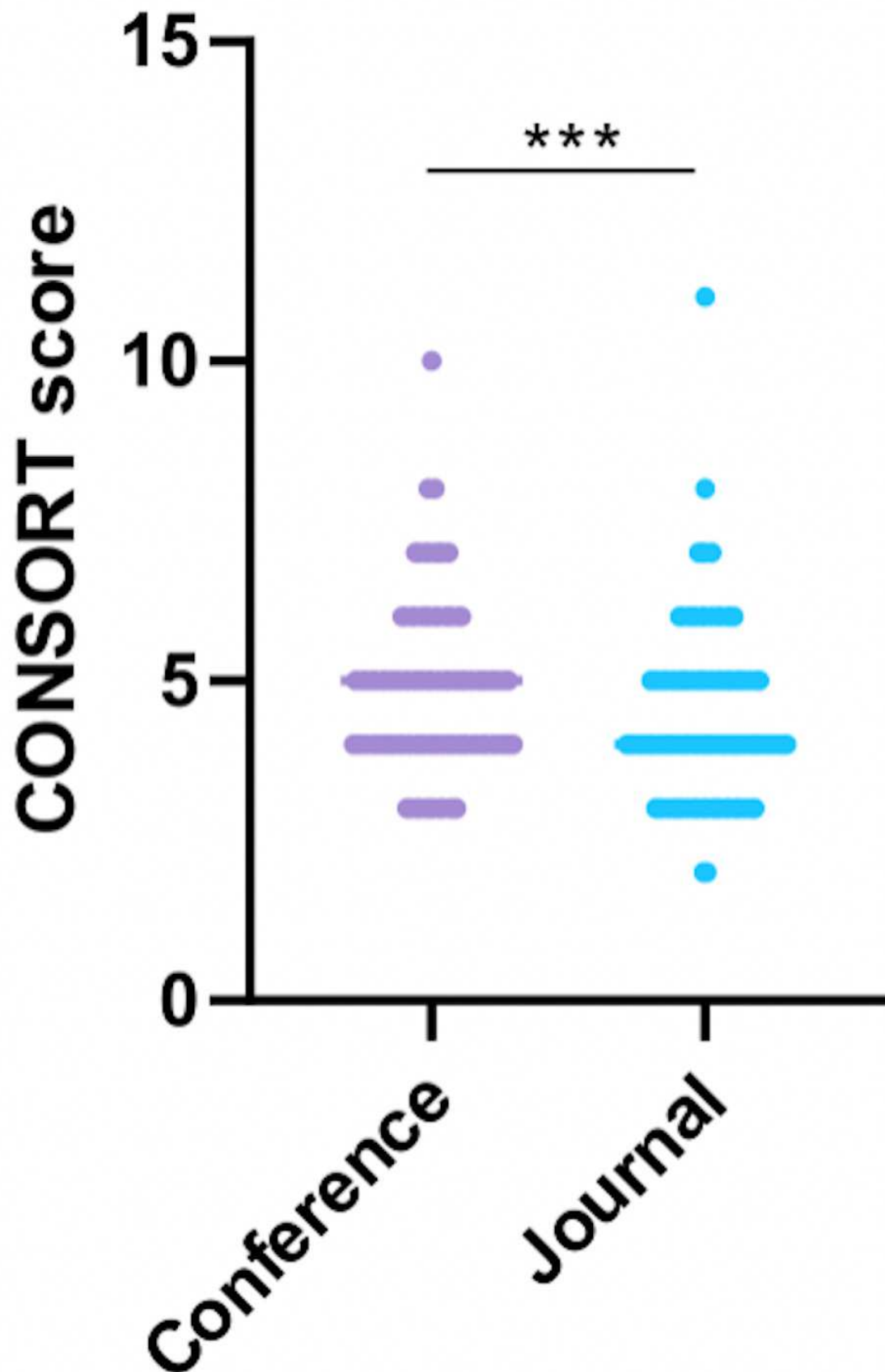


Table 1 (on next page)

Demographic characteristics of conference abstracts

1 **Table 1.** Demographic characteristics of conference abstracts

| Characteristic | Category | n | n% (100%=147) |
|------------------------|-------------------------------------|---------------|------------------|
| Year of presentation | 2002 IADR/AADR/CADR General Session | 11 | 7.48 |
| | 2003 IADR/PER General Session | 9 | 6.12 |
| | 2004 IADR/AADR/CADR General Session | 4 | 2.72 |
| | 2005 IADR/AADR/CADR General Session | 12 | 8.16 |
| | 2006 IADR General Session | 4 | 2.72 |
| | 2007 IADR/AADR/CADR General Session | 10 | 6.80 |
| | 2008 IADR/CADR General Session | 11 | 7.48 |
| | 2009 IADR/AADR/CADR General Session | 11 | 7.48 |
| | 2010 IADR/PER General Session | 16 | 10.88 |
| | 2011 IADR/AADR/CADR General Session | 12 | 8.16 |
| | 2012 IADR/LAR General Session | 18 | 12.24 |
| | 2013 IADR/AADR/CADR General Session | 9 | 6.12 |
| | 2014 IADR/AMER General Session | 6 | 4.08 |
| | 2015 IADR/AADR/CADR General Session | 14 | 9.52 |
| Continent of origin | Europe | 54 | 36.73 |
| | North America | 35 | 23.81 |
| | South America | 35 | 23.81 |
| | Asia/Africa/Australia | 23 | 15.65 |
| Presentation type | Oral | 63 | 42.86 |
| | Poster | 84 | 57.14 |
| Number of authors | Mean | 5.57 | |
| | Standard deviation (Range) | 2.82 (1-21) | |
| Sample size | Mean | 54.29 | |
| | Standard deviation (Range) | 47.92 (6-282) | |
| Exact p value | Yes | 103 | 70.07 |
| | No | 44 | 29.93 |
| Center | Single-center | 133 | 90.48 |
| | Multicenter | 14 | 9.52 |
| Type of institution | Universities | 144 | 97.96 |
| | Other institutions | 3 | 2.04 |
| Number of affiliations | Mean | 1.99 | |
| | Standard deviation (Range) | 2.41 (1-18) | |
| Overall conclusion | Positive | 85 | 57.82 |
| | Negative | 18 | 12.24 |

| | | | |
|--------------------|----------------------------------|----|-------|
| | Neutral | 44 | 29.93 |
| | Fixed prosthodontics | 10 | 6.80 |
| | Removable partial dentures | 5 | 3.40 |
| | Complete denture and Overdenture | 37 | 25.17 |
| Subspecialty focus | Implant-based prosthetics | 24 | 16.33 |
| | Dental composites and adhesives | 37 | 25.17 |
| | Temporomandibular disorders | 23 | 15.65 |
| | Others | 11 | 7.48 |

2

3

Table 2(on next page)

Inconsistency between conference abstracts and article abstracts

1 **Table 2.** Inconsistency between conference abstracts and article abstracts

| Characteristic | Category | n (%) |
|---|--|-------------|
| Title | Identical | 119 (80.95) |
| | Different | 28 (19.05) |
| First author | Identical | 104 (70.75) |
| | Different | 43 (29.25) |
| Study objective | Identical | 145 (98.64) |
| | Different | 2 (1.36) |
| Intervention | Identical | 144 (97.96) |
| | Different | 3 (2.04) |
| Study duration | Identical | 95 (64.63) |
| | Different | 27 (18.37) |
| | Unable to compare | 25 (17.01) |
| | a. Only described in the conference abstract | 3 (2.04) |
| | b. Only described in the final publication | 6 (4.08) |
| | c. Not mentioned | 16 (10.88) |
| Sample size | Identical | 101 (68.71) |
| | Different | 40 (27.21) |
| | a. Increased in final publication | 35 (23.81) |
| | b. Decreased in final publication | 5 (3.40) |
| | Unable to compare | 6 (4.08) |
| | a. Only described in the conference abstract | 5 (3.40) |
| | b. Only described in the final publication | 1 (0.68) |
| Primary outcome | Identical | 143 (97.28) |
| | Different | 4 (2.72) |
| Results for the primary outcome measure | Identical | 136 (92.52) |
| | Different | 11 (7.48) |
| Results for the secondary outcome measure | Identical | 67 (45.58) |
| | Different | 80 (54.42) |
| | a. Data added | 31 (21.09) |
| | b. Data deleted | 38 (25.85) |
| | c. Complete changed | 11 (7.48) |
| Statistical analysis | Identical | 59 (40.14) |
| | Different | 21 (14.29) |
| | Unable to compare | 67 (45.58) |

| | | |
|-------------------|--|-------------|
| | a. Only in the conference abstract | 30 (20.41) |
| | b. Only in the final publication | 6 (4.08) |
| | c. Not mentioned | 31 (21.09) |
| Precision measure | Identical | 43 (29.25) |
| | Different | 31 (21.09) |
| | Unable to compare | 73 (49.66) |
| | a. Only in the conference abstract | 27 (18.37) |
| | b. Only in the final publication | 19 (12.93) |
| | c. Not mentioned | 27 (18.37) |
| Conclusion | Identical | 139 (95.24) |
| | Different | 7 (4.76) |
| | a. Positive conclusion changed to negative one | 2 (1.36) |
| | b. Negative conclusion changed to positive one | 2 (1.36) |
| | c. Complete changed | 3 (2.04) |

2

3

Table 3(on next page)

Multiple linear regression of consistency related predictors

Abbreviation: B, coefficient; CI, confidence interval.Note: *, $p < 0.05$.

Table 3. Multiple linear regression of consistency related predictors

| Predictor | Category/unit | B | 95%CI | <i>p</i> value |
|-------------------------------|---------------------------------|----------------------|------------------|----------------|
| Follow up times | 1 month | -0.008 | (-0.018, 0.001) | 0.079 |
| Continent of origin | South America | Baseline (reference) | | 0.011* |
| | North America | -0.423 | (-0.917, 0.072) | |
| | Europe | -0.757 | (-1.267, -0.246) | |
| | Asia/Africa/Australia | -0.812 | (-1.387, -0.237) | |
| Presentation type | Poster | Baseline (reference) | | 0.017* |
| | Oral | 0.498 | (0.090, 0.906) | |
| Number of affiliations | 1 affiliation | 0.010 | (-0.078, 0.100) | 0.819 |
| Subspecialty focus | Temporomandibular disorders | Baseline (reference) | | 0.263 |
| | Fixed prosthodontics | 0.363 | (-0.372, 1.098) | |
| | Removable prosthodontics | 0.424 | (-0.827, 1.675) | |
| | Complete denture/Overdenture | -0.093 | (-0.611, 0.424) | |
| | Implant-based prosthetics | -0.049 | (-0.613, 0.514) | |
| | Dental composites and adhesives | 0.282 | (-0.240, 0.804) | |
| | Others | -0.604 | (-1.420, 0.216) | |
| Difference of CONSORT-A score | Per unit | -0.281 | (-0.502, -0.060) | 0.013* |

Abbreviation: B, coefficient; CI, confidence interval.

Note: *, $p < 0.05$.

4

5