Research Article

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Biomedical conferences' author instructions rarely mention guidelines for reporting abstracts of trials and systematic reviews

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Aim: To analyze whether instructions for authors of biomedical conference abstracts mention guidelines for writing randomized controlled trial and systematic review abstracts and to evaluate reasons for their absence from instructions. **Materials & methods:** We analyzed instructions for authors of biomedical conferences advertized in 2019 and assessed whether they mentioned Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Abstracts and Consolidated Standards of Reporting Trials for Abstracts guidelines. We surveyed contact persons from abstract/publication committees of selected conferences to analyze why relevant guidelines were missing. **Results:** Instructions for abstracts were available for 819 conferences. Only two (0.2%) had reporting instructions for randomized controlled trial/systematic review authors. Almost half of the contacted conference organizers whose response we received were not aware of Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Abstracts and Consolidated Standards of Reporting Trials for Abstracts guidelines. **Conclusion:** Conference organizers do not require and are not familiar enough with reporting guidelines.

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Keywords: biomedical conferences • CONSORT-A • instructions for authors • PRISMA-A • reporting guidelines • reporting quality

A guideline for reporting abstracts of randomized controlled trials (RCTs), Consolidated Standards of Reporting Trials for Abstracts (CONSORT-A), was published in 2008 [1]. In 2013, a reporting guideline Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Abstracts (PRISMA-A) was published to promote optimal reporting of systematic review (SR) abstracts [2]. If used, such guidelines can prevent incomplete reporting of data from RCTs and SRs in abstracts written for journal manuscripts and conferences and can help authors write those abstracts [1].

Multiple studies have shown that the abstracts published in peer-reviewed manuscripts, as well as in research conferences, insufficiently adhere to the CONSORT-A [3–7] and PRISMA-A [8–12]. It has been suggested that the suboptimal use of such checklists is due to its insufficient uptake by relevant stakeholders, including journal editors and authors [4,6].

Indeed, multiple studies have shown that journals' instructions for authors frequently do not contain a reference to checklists for reporting RCTs and SRs [13–15]. However, it is unknown whether instructions for authors of RCT and SR abstracts submitted for presentation in biomedical conferences guide the authors to use relevant reporting checklists.

The first aim of this study was to analyze whether biomedical research conferences provide policies and instructions for authors concerning reporting guidelines for writing abstracts of RCTs and SRs. The second aim of the study was to evaluate the reasons for not providing such guidelines.

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Methods

Study design

This was a cross-sectional study in which we analyzed instructions for authors for writing biomedical conference RCT and SR abstracts and subsequently surveyed contact persons from abstract/publication committees of the conferences, which did not contain any guidance/policies for reporting RCT and SR abstracts.

Inclusion criteria

We analyzed instructions for authors of all biomedical conferences announced during a 6-month period (from March to August 2019) in the following directories of biomedical conferences: Nature Events Directory (www.nature.com/natureevents/science) [16] and E-Med-Events (www.emedevents.com/medical-conferences/medical-conferences-by-specialty) [17]. These are major websites where, among others, biomedical conferences are listed announced. Listed events are organized worldwide including both national and international conferences. For conference screening, we used the following limits: filter 'life sciences' for Nature Events, and filter 'live conferences' for E-Med-Events. In both directories, we set the limit for the time period within the chosen month.

Analyzed months were screened for announced biomedical conferences 5 months before the event (e.g., conferences in March were screened in November). Conferences were screened against two eligibility criteria: the topic of the event was biomedical, and the event was accepting submissions of abstracts or posters for presentation at the event. We excluded events that did not accept posters or abstracts as well as duplicate events if an event was listed in multiple event directories. We included both national and international, clinical and preclinical conferences regardless of the number or type of abstracts presented.

Data extraction

We screened conference websites for instructions for authors of included biomedical conferences and copied verbatim statements with policies and guidance for reporting RCT and SR abstracts. Then, we categorized our findings into three groups: no guidance for writing RCT and/or SR abstracts, specific instructions to follow CONSORT-A and PRISMA-A checklists, and other instructions for writing RCT and/or SR abstracts (if found). The data extraction form contained the information about access date, name of the conference, URL for the conference website and abstract submission guidelines, verbatim copy of text with instructions for abstract authors, e-mail address of the scientific/abstract committee president or e-mail address listed for contact in cases where contact for scientific/abstract committee president was not available.

Keywords that were used for searching conference websites were: random, systematic, review, CONSORT, PRISMA, checklist. These keywords were used to screen both conference websites and instructions for the authors by using a Find tool (command Ctrl + F). Screening of the conferences was divided between two authors (J Mihanovic and L Saric) and the data were extracted from websites. One author (L Saric) verified data entries for 10% of randomly chosen conferences from our final sample.

For conferences where no instructions for authors could be identified, an e-mail with the survey was sent to organizers to see whether they have specific instructions for SR and RCT abstracts and to see whether the organizers are familiar with PRISMA-A and CONSORT-A.

Survey

In the second part of the study, we conducted a survey, in which we contacted chairs of scientific/abstract/publication committees of selected conferences via e-mail, with only two questions: first, what is the reason why the guidelines about reporting RCT and/or SR abstracts were not provided and second, whether they are aware of CONSORT-A and PRISMA-A guidelines. Text of the survey e-mail is enclosed in Supplementary Material 1. We used e-mail addresses of the committee chairs that were available on the conference websites. In case, e-mail addresses were not available, we contacted conference organizers or contact persons whose e-mail addresses were listed in conference websites. In cases where multiple e-mail addresses were available, e-mail was sent to one of those. If an e-mail bounced (e.g., 'could not be delivered' message was received), another e-mail was sent to other e-mail addresses where available. If we received a response that a person who received an e-mail is not responsible for instructions for authors, another e-mail was sent to the suggested person, or in case the respondent did not suggest whom to contact, an e-mail was sent to other addresses if those were available.

If no response was received, a reminder e-mail was sent to all nonresponders in June 2019. In cases where more e-mail addresses were listed, and the first e-mail was sent to only one of them, the remainder e-mail was sent to all listed e-mail addresses.

Ethics

Before conducting a survey, we submitted the study protocol to the Ethics Committee of the University of Split School of Medicine and obtained the protocol approval. Each potential participant received information about the study protocol with a note that their response to our e-mail will be considered as consent for participation in the study.

Data analysis

We used descriptive statistics, including frequencies and percentages, to present how often certain policies and guidelines were used in the analyzed instructions for authors. We used Microsoft Excel (Microsoft, Inc., WA, USA) for analysis.

Results

In the analyzed 6-month period from March to August 2019, there were 6633 conference entries announced in the analyzed directories. Of these, 5670 conferences did not accept abstracts and were excluded. When duplicates were removed (n = 5), 958 conferences remained that met our inclusion criteria and were further analyzed. We categorized included conferences into basic science (n = 406), clinical (n = 311), combined basic and clinical (n = 143), other (e.g., conferences about education, management, traditional medicine, etc.; n = 74) and those that could not be categorized due to insufficient information (n = 24).

Analysis of instructions for authors of conference abstracts

In the announcements of 126 (13%) of the 958 analyzed conferences, we were unable to find any instructions for authors of abstracts. For 13/958 (1.3%) conferences, we were unable to analyze instructions for authors because the deadline for abstract submission had passed and instructions were no longer available (11 conferences), or the registration for participation was required before receiving instructions for authors (two conferences). Out of the remaining 819 conferences, only two conferences (0.2%) had any kind of instructions for authors of RCT or SR abstracts (ECCO Congress 2019 in Copenhagen, 4th B Chromosome Conference in Botukatu, Brazil). One (0.1%) conference mentioned only CONSORT-A guidelines, and one (0.1%) conference had other specific instructions regarding RCTs ('those abstracts should include trial registry with the unique identifying number').

Survey of conference organizers

Among 958 analyzed conferences, for 11 (1.1%) there was no contact available on the conference website. For 28 conferences (2.9%), e-mail could not be delivered, usually because of the invalid e-mail address. For the remaining 919 conferences, we received 110 responses (11.9%). Of those, 20 e-mails (18%) were meaningless responses that did not contain answers to our questions but invitations to attend conferences or links to instructions for authors in the websites. Out of the 90 responses, ten (11.1%) refused to participate in research, leaving us with 80 responses for further analysis. Of those, 38 conferences (47.5%) were categorized as basic science, 14 (17.5%) as clinical and 22 (27.5%) as combined basic science and clinical. Two conferences (2.5%) were categorized as other, and four conferences (5%) could not be categorized. Therefore, half of the responses we analyzed were from conferences that included clinical sciences.

Detailed survey results are shown in Table 1, according to the American Association for Public Opinion Research (AAPOR) guidelines (https://www.aapor.org/Publications-Media/AAPOR-Journals/Standard-Definitions.aspx) [18].

For the first question, regarding reasons for not providing specific instructions for RCT and SR abstracts, most responses stated that the conferences were about basic science (N = 15; 19%) and that there are no specific instructions for any type of abstracts (N = 10; 13%). Furthermore, seven (8.7%) respondents indicated that a company organizing the conference was responsible for instructions for authors, not the scientific committee. On the other hand, five (6.3%) responses indicated that the organizing company was not responsible for those instructions suggesting that the scientific committee was responsible for that. Five answers were that abstracts were

Table 1. Detailed results according to the American Association for Public Opinion Research guidelines.

Category	AAPOR code	n
Returned questionnaire	1.0	
– Complete	1.1	75
– Partial or break-off with sufficient information	1.2	25
Eligible, 'non-interview'	2.0	
– Explicit refusal	2.111	10
– Noncontact	2.20	11
– Respondents unavailable during period	2.26	20
Unknown eligibility, 'non-interview'	3.0	
– Nothing ever returned	3.19	772
– Invitation returned undelivered	3.30	28
– Invitation returned with forwarding information	3.40	17
Not eligible, Returned	4.0	
Total		958

AAPOR: American Association for Public Opinion Research.

not intended for publishing in journals (6.3%) and three were that organizers wanted to encourage more authors to submit their abstracts (3.8%). Other answers are listed in Table 2.

In response to our survey e-mail, contact persons for two conferences (0.2%) informed us that they had changed their instructions for authors of abstracts after receiving our inquiry and had referred them to CONSORT-A and PRISMA-A guidelines for writing RCT and SR abstracts (SSO 2019 in San Diego and 4th INDERCOS Congress, Istanbul).

For the second question in our survey, whether they were familiar with relevant reporting guidelines, 25 of 80 respondents (31.2%) did not answer to that specific question. Only 19/80 participants (23.7%) confirmed they were familiar with PRISMA-A and CONSORT-A guidelines. Of those 19 participants, 11 were from conferences that were categorized as clinical or combined basic science and clinical conferences. On the other hand, 35/80 respondents (43.7%) indicated they were not aware of these guidelines. Fifteen of these respondents were from clinical or combined basic science and clinical conferences. One respondent declared being familiar with CONSORT-A, but not with PRISMA-A guidelines.

Discussion

Summary of results

Our study showed that specific reporting guidelines for writing RCT and SR abstracts are extremely rarely mentioned in instructions for authors of biomedical conference abstracts. Conference organizers provided various reasons for not including these guidelines in conference abstract instructions; almost half of those who responded declared that they were not aware of PRISMA-A and CONSORT-A guidelines.

Instructions for authors

There is a number of studies that have analyzed adherence to reporting guidelines for RCTs and SRs in manuscripts published in medical journals from various fields [14,19–23]. Despite the existence and availability of reporting guidelines, most of the research showed that reporting quality of RCTs and SRs, as well as their abstracts, is suboptimal [12,14,19–23]. However, it has been also shown that reporting quality of RCT and SR abstracts has improved after the implementation of PRISMA and CONSORT guidelines by journals [24–27].

Regarding the abstracts presented at biomedical conferences, in the analysis of the nine leading conferences, Hopewell showed that reporting quality of SR abstracts had serious deficiencies in reporting despite the availability of PRISMA-A guideline [12]. Our previous research also showed that reporting quality of RCT abstracts presented in the largest global conference on pain was suboptimal [28]. We hypothesized that one of the reasons for inadequate reporting of RCTs and SRs abstracts in conferences might lie in the absence of reporting guidelines in the conference instructions for abstracts. We tested and confirmed this hypothesis in the present study as we found that CONSORT-A guideline was mentioned in only one out of 819 biomedical conferences that had available

Table 2. List of answers for not providing guidelines for authors of randomized controlled trial/systematic review abstracts.

Answers	n (%)
No answer	4 (4.4)
Abstracts not intended for publishing in journal	5 (5.5)
Added PRISMA and CONSORT after inquiry	2 (2.2)
Organizing agency not responsible for instructions	5 (5.5)
Asked for link to guidelines	1 (1.1)
Conference is about basic science	15 (16.7)
Decided to make the instructions very simple	1 (1.1)
Do not see them as relevant tools for conference abstract reviews	1 (1.1)
Do not encourage SR and RCT	1 (1.1)
Do not want to be to formal	1 (1.1)
Want to encourage more authors to submit abstracts	2 (2.2)
Want to encourage more authors, do take into account many factors from checklists	1 (1.1)
Rely on good scientific practice	1 (1.1)
Less regulation is necessary in science	1 (1.1)
No need for that	1 (1.1)
No specific instructions for any type of abstracts	10 (11.1)
Not a criteria for abstract acceptance	1 (1.1)
Not necessary	1 (1.1)
Organizing company responsible for instructions	7 (7.7)
RCT accepted without specific instructions; SR not accepted, only original research from lab	1 (1.1)
RCT and SR do not fit into desired content of conference	1 (1.1)
It is the responsibility of abstract authors	1 (1.1)
Use same instructions for all conferences	1 (1.1)
Abstracts undergo series of quality checks	2 (2.2)
Small meeting	2 (2.2)
Small number of those abstracts	3 (3.3)
Used them before, do not know why not anymore	1 (1.1)
We should reject or ask for resubmission too many abstracts	1 (1.1)
Will consider in next meetings	3 (3.3)
Will include next time	1 (1.1)
Will look into these instructions and consider them for future	1 (1.1)
Would be happy to include information on CONSORT and PRISMA checklists	1 (1.1)
Do not wish to participate	10
Total	90

CONSORT: Consolidated standards of reporting trial; PRISMA: Preferred reporting items for systematic reviews and meta-analyses extension; RCT: Randomized controlled trial; SR: Systematic review.

instructions for authors, and none of them mentioned PRISMA-A guideline. A number of analyzed conferences were annual society meetings and world or continental meetings. Considering that RCTs and SRs are regarded as the most valuable sources of information in medicine [29–31], one would expect that conference organizers would recognize that and provide more specific instructions for authors of such research.

When we contacted organizers to explore reasons for not mentioning PRISMA-A and CONSORT-A guidelines, only 12% of contacted organizers responded. The most common answers were that the conference was about basic science and that no specific instructions were given for any type of research or that abstracts were not intended for publishing in journals. We consider that not mentioning PRISMA-A and CONSORT-A guidelines in basic science conferences is understandable since it is likely that few SRs and RCTs will be presented in such conferences. However, abstracts reporting basic science also need to be adequately reported. If abstracts reported RCTs conducted on animals, or if they reported SRs, the authors would still be expected to follow existing reporting guidelines.

For example, The CAMARADES initiative provides recommendations regarding reviews of animal data from experimental research [32], but it was not mentioned in any of the analyzed instructions.

Furthermore, abstracts presented in biomedical conferences are usually the first source of information about new research, before studies described in those abstracts are published in journals. The purpose of reporting guidelines for abstracts is to enable readers to receive the most important information about the study in question, and decide whether the presented research is of interest to them. It is already known that many RCTs and SRs presented as conference abstracts do not get published years after they were presented [28,33], which often makes conference abstracts the only available information about those studies. Thus, conference abstracts should be adequately reported. Otherwise, they may not be a useful source of information for healthcare workers looking for information to implement in their clinical practice, or researchers conducting evidence syntheses such as systematic review, who would likely attempt to include data from conference abstracts.

Some organizers replied they did not want to be too formal that they wanted to encourage more authors and that they relied on good scientific practice. However, we do not endorse this approach, since relying on 'good scientific practice' would imply that authors will follow the reporting guidelines and it has been shown before that this is not the case [7,14]. Furthermore, if the conference organizers wanted to encourage more authors to submit their research, there is no reason for not providing guidelines for reporting of their research. We believe that asking authors to report their RCT or SR abstracts in line with PRISMA-A or CONSORT-A guidelines would not discourage authors from presenting their research at a conference.

One could argue that conferences, which are not associated with a journal where the abstract would be published, do not necessarily need to mention reporting guidelines as these conference abstracts will likely not be publicly available. However, the purpose of reporting guidelines is to help authors present the main characteristics of the study, so the reader can receive adequate and complete information. Whether the research will be published in a journal or not should not be the reason for not using the reporting guidelines. Both PRISMA-A and CONSORT-A reporting guidelines highlight that they should be considered when writing about RCT or SR for any journal or conference abstract [1,2].

While conducting this study, we noticed that many of the conferences were organized by specialized agencies or companies. Often, one agency was responsible for organizing multiple conferences. Some respondents indicated that specific reporting guidelines were not mentioned because the organizing company is not responsible for instructions for authors, while other respondents indicated that the organizing company was responsible for those instructions. It appears that, depending on the type of the respondent, there may have been some confusion regarding the roles of the various stakeholders involved in the conference organization. Regarding these conflicting answers, it should be clear who is responsible for instructions for authors and staff involved in conference organization should be appropriately educated. Ideally, instructions for authors should be prepared by scientific committees composed of researchers, because it is expected that researchers are familiar with reporting guidelines.

A positive example from this study is that two of the organizers added PRISMA-A and CONSORT-A, as well as a link to the EQUATOR network, after our e-mail survey. Furthermore, one of the organizers replied that they did use these guidelines before and was not sure why they did not use them anymore, but will consider to include them in future conferences.

Familiarity with PRISMA-A & CONSORT-A

One of the potentially worrying findings from our study was that almost half of conference organizers (N = 35) were not aware of PRISMA-A or CONSORT-A guidelines. As research showed [21–23,26,34], adopting reporting guidelines by scientific journals does not necessarily lead to improved adherence to those guidelines. Instead, an effort from all stakeholders involved in the scientific process is necessary to improve the reporting quality of RCTs and SRs. Therefore, researchers involved with scientific committees of conferences should encourage organizers to endorse reporting guidelines for abstracts, and professional conference organizers should be educated about the importance of reporting guidelines. Hopefully, this would lead to improved reporting quality of RCT and SR conference abstracts.

Study limitations

Our study has several limitations. One of the major limitations is the response rate. We received answers from only 12% of contacted organizers and we could analyze only 80 responses. To keep the survey simple, we did not collect any personal information about respondents; it is likely that more information about survey participants, in other

words, their exact professional role regarding conference organization, would provide more comprehensive data regarding our survey results.

We searched for biomedical conferences in two large conference directories and it is possible that we may have missed some relevant conferences that were not indexed in those directories. Furthermore, we analyzed conferences advertized within a limited period of 6 months in 2019. However, we think that the final number of almost a thousand conferences should be large enough sample for the analysis.

Conclusion

Guidelines for reporting SR and RCT abstracts were extremely rarely included in instructions for authors of abstracts of biomedical conferences advertized in 2019. Surveyed conference organizers provided various reasons for not including PRISMA-A and CONSORT-A guidelines in those instructions. Almost half of the conference organizers were not aware of these reporting guidelines. An effort from all stakeholders is necessary to improve the reporting quality of RCT and SR conference abstracts. Including researchers in overseeing the writing of instructions for authors of conference abstracts, and educating conference organizers about reporting guidelines could lead to more detailed instructions for authors. Hopefully, insisting on adherence to PRISMA-A and CONSORT-A guidelines should lead to better reporting quality of RCT and SR conference abstracts.

Future perspective

This field of research is not new but is developing in recent years. There is an increasing number of research conducted but still, a large number of those are never published. Abstracts are often the only source of information for those research as well as a very important source of information for published research. As such, their reporting is still unsatisfactory despite the availability of reporting guidelines. Further research is needed to determine the reasons for such poor reporting quality. Moreover, research is needed to identify the interventions for improving reporting quality.

Summary points

Background

- To promote optimal reporting of randomized controlled trial (RCT) and systematic review (SR) abstracts, Consolidated Standards of Reporting Trials for Abstracts (CONSORT-A) and Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Abstracts (PRISMA-A) guidelines were published in 2008 and in 2013.
- Despite these guidelines, the reporting quality of these abstracts remains poor.
- Research showed that checklists for reporting RCTs and SR are rarely included in journal instructions for authors.

Methods

- We analyzed instructions for authors of biomedical conferences announced in two large directories in a period of 6 months.
- Conferences whose topic was not biomedical and which did not accept posters or abstracts were excluded.
- Instructions for authors were screened and categorized regarding the guidance for reporting RCT and SR abstracts.
- A survey was sent to chairs of scientific/abstract/publication committees of selected conferences or to conference organizers in cases where e-mail addresses of committee chairs were not available via e-mail.
- The survey contained inquires about the reasons for not providing specific guidelines for RCT/SR abstract authors and about the familiarity of committee chairs or conference organizers with CONSORT-A and PRISMA-A guidelines.

Results

- In the selected 6-month period, 6633 conferences were screened of which 958 fulfilled our inclusion criteria.
- We had 819 conferences available for further analysis. Of those, only two (0.2%) had any kind of instructions for RCT/SR abstracts.
- Reasons for not providing the specific guidelines were heterogeneous, most often stating that the conferences were about basic science or that they do not give specific instructions for any kind of abstracts.
- Almost half of the respondents replied that they were not aware of CONSORT-A and PRISMA-A guidelines.

Conclusion

- An effort from all stakeholders is necessary to improve the reporting quality of RCT and SR conference abstracts. Insisting on adherence to reporting guidelines should lead to better reporting quality of conference abstracts.

Supplementary data

To view the supplementary data that accompany this paper please visit the journal website at: www.futuremedicine.com/doi/suppl/10.2217/cer-2019-0158

Author contributions

L Puljak, L Saric, J Mihanovic and S Dosenovic were responsible for the study design. L Saric and J Mihanovic performed the data collection and data analysis. L Saric and L Puljak contributed to writing the first draft of the manuscript. L Saric, S Dosenovic, J Mihanovic and L Puljak were responsible for the critical revision of the manuscript. L Saric, S Dosenovic, J Mihanovic and L Puljak approved the final version of the manuscript.

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Ethical conduct of research

This research was approved by the Ethics Committee of the University of Split School of Medicine. Each potential participant received information about the study protocol with a note that their response to our e-mail will be considered as consent for participation in the study.

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