

# Reporting Quality in Abstracts of Randomized Controlled Trials Published in High-Impact Occupational Therapy Journals

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**Importance:** Adequate reporting in the abstracts of randomized controlled trials (RCTs) is essential to enable occupational therapy practitioners to critically appraise the validity of findings.

**Objective:** To evaluate the reporting quality and characteristics of RCT abstracts published between 2008 and 2018 in the occupational therapy journals with the five highest impact factors in 2018.

**Design:** A descriptive cross-sectional study.

**Data Sources:** The *American Journal of Occupational Therapy* (AJOT), *Australian Occupational Therapy Journal* (AOTJ), *Canadian Journal of Occupational Therapy* (CJOT), *Scandinavian Journal of Occupational Therapy* (SJOT), and *Physical and Occupational Therapy in Pediatrics* (POTP) were identified using a Web of Science search.

**Study Selection and Data Collection:** We searched Scopus for abstracts in the five included journals. We used a 17-point scale based on the CONSORT for Abstracts (CONSORT-A) checklist to assess reporting quality. We also identified characteristics of the abstracts.

**Findings:** Seventy-eight RCT abstracts were assessed and showed moderate to low adherence to the CONSORT-A checklist ( $Mdn = 8$ , interquartile range = 7–9). Abstracts of articles with authors from a higher number of institutions, European first authors, and >200 words had higher CONSORT-A scores. The most underreported CONSORT-A items were trial design, blinding, numbers analyzed, outcome (results), harms, trial registration, and funding.

**Conclusions and Relevance:** Between 2008 and 2018, the reporting quality in RCT abstracts from the five highest impact occupational therapy journals was moderate to low. Inadequate reporting in RCT abstracts raises the risk that occupational therapy practitioners will make ineffective clinical decisions based on misinterpretation of findings.

**What This Article Adds:** Reporting quality in RCT abstracts in occupational therapy journals is moderate to low. Journal editors should require authors of RCTs to use the CONSORT-A checklist to promote optimal reporting and transparency in abstracts.

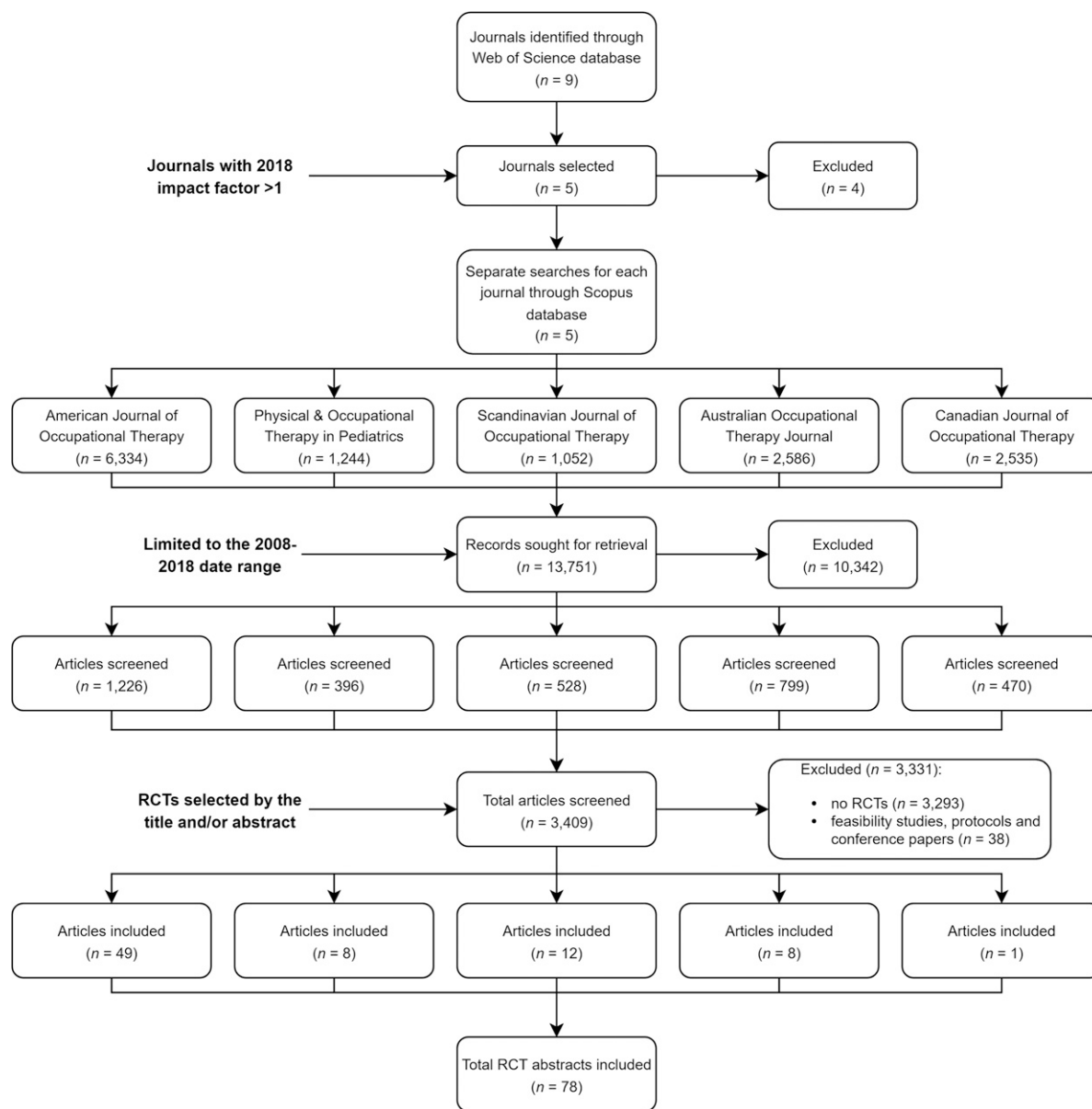
Fernández-Pires, P., Prieto-Botella, D., Valera-Gran, D., Hurtado-Pomares, M., Espinosa-Sempere, C., Sánchez-Pérez, A., . . . Navarrete-Muñoz, E.-M. (2022). Reporting quality in abstracts of randomized controlled trials published in high-impact occupational therapy journals. *American Journal of Occupational Therapy*, 76, 7604205120. <https://doi.org/10.5014/ajot.2022.042333>

The randomized controlled trial (RCT) is the gold standard for evaluating clinical procedures because of its rigorous methodology, prospective data collection, and ability to establish causal conclusions (Hariton & Locascio, 2018; Murad et al., 2016). RCTs

provide the highest quality scientific evidence and the most useful basis for designing interventions and clinical guidelines and protocols (Winstein et al., 2016). RCTs play a significant role in evidence-based clinical decision making for occupational therapy practitioners



**Figure 1. Flow diagram of the article selection process.**



Note. RCT = randomized controlled trial.

## Reporting Quality Evaluation

We checked the title and abstract of all included articles for adherence to the CONSORT-A checklist. The CONSORT-A checklist consists of 17 items categorized into eight sections: (1) title, (2) authors, (3) trial design, (4) methods (participants, interventions, objective, outcome [methods], randomization, and blinding), (5) results (numbers randomized, recruitment, numbers analyzed, outcome [results], and harms), (6) conclusions, (7) trial registration, and (8) funding (Hopewell et al., 2008). To quantify adherence to CONSORT-A, we assigned 1 point to each item; thus, total scores ranged from 0 to 17 points, with higher scores representing closer adherence to the CONSORT-A checklist and therefore higher quality reporting in the abstracts.

Articles included in the study were randomly assigned to Prieto-Botella and Moreno-Campos, who independently rated adherence to the CONSORT-A checklist. We calculated interrater reliability for a random sample of 34 articles; Cohen's  $\kappa$ s were  $\geq .80$ , indicating excellent agreement. In cases of disagreement, the raters met with Navarrete-Muñoz to discuss the reasons for the discrepancy and reach agreement on the rating.

## Data Analysis

Statistical analyses were performed with R (Version 4.0.2). We used frequencies and percentages for bibliometric features of the five occupational therapy journals, characteristics of the included articles, and adherence to CONSORT-A. In addition, we conducted



**Table 2. Relationships Between Characteristics of the RCT Abstracts (N = 78) and Median CONSORT-A Scores**

Characteristic	No. of Abstracts (%)	Median CONSORT-A Score (IQR)	p <sup>a</sup>
Year of publication			.631
Before 2010	14 (17.9)	8.0 (8.0–9.0)	
2010 and later	64 (82.1)	8.0 (7.0–9.0)	
Journal			.021
<i>American Journal of Occupational Therapy</i>	49 (62.8)	8.0 (7.0–9.0)	
<i>Scandinavian Journal of Occupational Therapy</i>	12 (15.4)	8.5 (8.5–11.0)	
<i>Australian Occupational Therapy Journal</i>	8 (10.3)	8.5 (7.8–10.3)	
<i>Physical and Occupational Therapy in Pediatrics</i>	8 (10.3)	8.5 (8.0–10.0)	
<i>Canadian Journal of Occupational Therapy</i>	1 (1.3)	7.0 (7.0–7.0)	
No. of authors			.189
≤5	57 (73.1)	8.0 (7.0–9.0)	
>5	21 (26.9)	8.0 (8.0–10.0)	
No. of institutions			.015
<5	61 (78.2)	8.0 (7.0–9.0)	
≥5	17 (21.8)	9.0 (8.0–10.0)	
First author's geographic area			.004
North America	40 (51.3)	8.0 (7.0–8.3)	
Europe	11 (14.1)	10.0 (8.0–11.0)	
Other countries	27 (34.6)	8.0 (7.0–9.0)	
Structured abstract			.147
Yes	64 (82.0)	8.0 (7.0–9.3)	
No	14 (17.9)	8.0 (7.0–8.0)	
Abstract length, words			<.001
≤150	30 (38.5)	7.0 (6.0–8.0)	
151–200	34 (43.6)	8.0 (8.0–9.0)	
>200	14 (17.9)	10.0 (9.0–11.0)	
Trial design			.154
Parallel	53 (67.9)	8.0 (7.0–9.0)	
Cluster	25 (32.1)	8.0 (8.0–9.0)	
Sample size <sup>b</sup>			.104
<50	43 (59.7)	8.0 (7.0–9.0)	
≥50	29 (40.3)	8.0 (8.0–10.0)	
Occupational therapy domain			.641
Occupations	43 (55.1)	8.0 (7.0–9.0)	
Performance skills	31 (39.7)	8.0 (7.0–9.0)	
Other domains	4 (5.1)	8.0 (8.0–8.5)	
Health conditions			.414
Neurological pathologies	22 (28.2)	8.0 (7.3–9.8)	
Developmental disorders	14 (17.9)	8.0 (7.0–9.0)	
Mental disorders	10 (12.8)	8.0 (7.3–8.8)	
Physical pathologies	9 (11.5)	8.0 (8.0–10.0)	
Chronic and age-related pathologies	12 (15.4)	8.0 (8.0–9.0)	

(Continued)

**Table 2. Relationships Between Characteristics of the RCT Abstracts (*N* = 78) and Median CONSORT-A Scores (*Cont.*)**

Characteristic	No. of Abstracts (%)	Median CONSORT-A Score (IQR)	<i>p</i> <sup>a</sup>
No pathology	11 (14.1)	7.0 (6.5–8.0)	

Notes. CONSORT-A = Consolidated Standards of Reporting Trials for Abstracts; IQR = interquartile range; RCT = randomized controlled trial.

<sup>a</sup>CONSORT-A scores (continuous nonparametric variable) compared to categorical (Kruskal–Wallis test) and dichotomous (Mann–Whitney *U* test) variables.

<sup>b</sup>*N* = 72; 6 abstracts did not report sample size.

No significant associations were found between median CONSORT-A score and trial design, structured abstract, number of authors, occupational therapy domains, or health conditions.

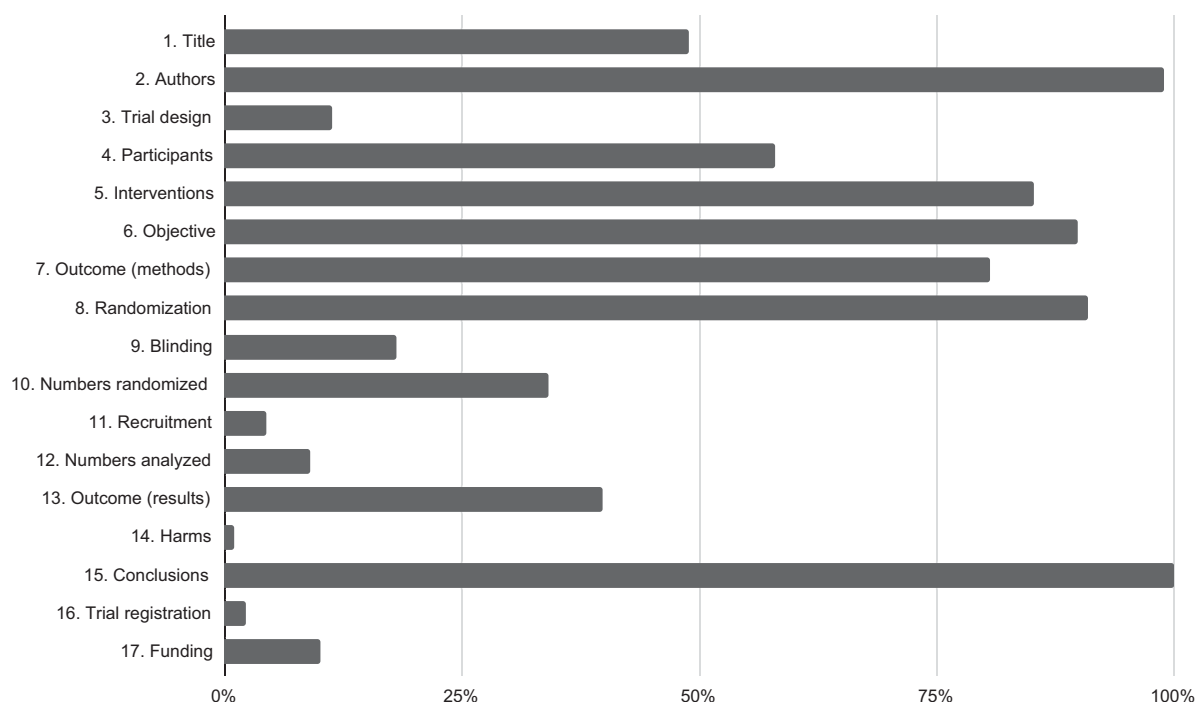
Figure 2 displays the percentage of the 78 articles that adhered to each of the 17 items of the CONSORT-A checklist. Overall, the abstracts showed moderate to low adherence to the checklist (*Mdn* = 8, *IQR* = 7–9). The items with high adherence were those pertaining to authors (98.7%), interventions (87.2%), objective (96.2%), outcome (methods; 88.5%), randomization (94.9%), and conclusions (100.0%). The items with moderate adherence were title (50.0%) and participants (57.7%), whereas those with low adherence were blinding (20.5%), numbers randomized (35.9%), and outcome (results; 38.5%). Items with very low adherence (i.e., reported in few of the abstracts) were trial design (12.8%), recruitment (5.1%), numbers analyzed (10.3%), harms (1.3%), trial registration (2.6%), and funding (11.5%). The abstracts' CONSORT-A scores ranged from 4 to 13 points.

## Discussion

Ours is the first study to evaluate reporting quality in RCT abstracts in the field of occupational therapy. We found that the reporting quality in the abstracts was moderate to low. Adherence to the CONSORT-A checklist differed significantly by journal, number of author institutions, first author's geographic area, and abstract length.

Although RCTs are considered the hallmark of high-quality scientific evidence used to guide clinical interventions (Hariton & Locascio, 2018), RCTs accounted for only a small fraction of the articles published in the five highest impact occupational therapy journals between 2008 and 2018. However, we noted an increase, although gradual, in the number of RCTs published after the most recent version of the CONSORT guidelines was released in 2010. To some extent, the low proportion of RCTs in occupational therapy journals may indicate an emphasis on qualitative studies intended to illuminate personal experiences and perspectives of individuals or specific groups (Upton et al., 2014; Wressle & Samuelsson, 2015) over

**Figure 2. Percentage of abstracts that reported each of the 17 CONSORT-A items (*N* = 78).**



Note. CONSORT-A = Consolidated Standards of Reporting Trials for Abstracts.

clinical experimental studies evaluating the efficacy of occupational therapy interventions. In addition, occupational therapy researchers may find it difficult to obtain funding to conduct RCTs, and they may submit RCT manuscripts to non-occupational therapy journals with higher impact factors. Further analysis of the research output on the clinical application of occupational therapy is required to provide a more comprehensive overview of evidence for the efficacy of occupational therapy interventions.

In addition, and in line with a growing concern expressed by the authors of several studies, the low production of RCTs supporting the efficacy of occupational therapy may be a direct consequence of poor scientific knowledge and research skills among occupational therapy practitioners (Lindström & Bernhardsson, 2018; Prieto-Botella et al., 2021; Thomas & Law, 2013; Upton et al., 2014). Our finding that European first authors and involvement of a greater number of institutions were linked to higher reporting quality in RCT abstracts suggests that international collaboration can play an important role in producing higher quality research in occupational therapy.

Most of the 78 RCTs were published in *AJOT*, but the abstracts of those published in *SJOT*, *AOTJ*, and *POTP* showed higher adherence to CONSORT-A. Intriguingly, although *AJOT* and *CJOT* recommended that authors use the CONSORT guidelines to maximize transparency and scientific rigor, the RCT abstracts in these two journals had the lowest CONSORT-A scores. Considering that the five journals' editorial policies on aims, scope, and requirements were very similar, the only convincing explanation for the differences in reporting quality in their RCT abstracts is differences in their author instructions for abstracts. *AJOT*'s and *CJOT*'s manuscript submission guidelines in 2018 limited the abstract to a maximum of 150 words. We found that abstracts written with 150 words or fewer had the lowest CONSORT-A scores.

Although we agree that it is possible for abstracts limited to 150 words to follow the reporting standards of the CONSORT Statement and report sufficient information to assess the internal and external validity of a study (Gutman, 2010; Gutman & Murphy, 2012), it is unlikely that such short abstracts can do so for RCTs. Our observation that RCT abstracts of 200 words or more had greater adherence to CONSORT-A checklist is consistent with the results of previous studies (Fang et al., 2020; Ghimire et al., 2014; Jin et al., 2016; Shaqman et al., 2020; Song et al., 2017). Thus, we support the recommendation by the CONSORT Group (Hopewell et al., 2008) and authors of studies similar to ours (Fang et al., 2020; Fleming et al., 2012; Song et al., 2017) that RCT abstracts be between 250 and 300 words in length to include all items on the CONSORT-A checklist.

Our study suggests that abstract length should be considered a crucial element of the reporting quality of health research RCTs. Although the reporting quality of abstracts does not necessarily reflect the quality of the study, it is vitally important that RCT abstracts provide sufficient information about the study for readers to critically appraise its validity before deciding whether to read the full article (Song et al., 2017). Accordingly, in line with the *JAMA Network* (2018) guidelines, the updated *AJOT* guidelines for authors published in 2020 raised the limit for abstracts to 250 words for original research articles, including RCTs (AOTA, 2020).

Consistent with the findings of previous studies, we observed that a considerable proportion of the abstracts included in our study did not report details on blinding, numbers randomized, and outcome (results), and few provided information about trial design, recruitment, numbers analyzed, harms, trial registration, or funding (Berwanger et al., 2009; Fang et al., 2020; Ghimire et al., 2014; Gutman & Murphy, 2012; Hays et al., 2016; Jin et al., 2016; Shaqman et al., 2020; Song et al., 2017; Speich et al., 2019). In terms of reproducibility and replicability, the failure to specify study methodology in RCT abstracts may involve risk of bias that can affect the internal validity of the study as a result of flaws in the interpretation of study data (Savović et al., 2012; Schulz et al., 1995); in terms of application, poor reporting quality in RCT abstracts can lead to ineffective clinical decision making (Fleming et al., 2012; Ghimire et al., 2014; Song et al., 2017). Thus, even journals that endorse the CONSORT guidelines in their instructions to authors should have more active editorial policies to ensure that authors implement those guidelines—for example, a requirement that authors provide a completed CONSORT checklist when submitting their manuscript. Since January 1, 2021, *AJOT* requires authors to complete a presubmission checklist to help improve the reporting quality of research published in this journal. The changes in *AJOT*'s editorial policy for abstracts can serve as an excellent precedent for other occupational therapy journals to follow.

## Limitations

This study has several limitations. First, our results are based on analysis of only the five highest impact occupational therapy journals, which limits the generalizability of our results to other occupational therapy journals. However, because of the low number of scientific journals specifically aimed at occupational therapy research, our results may sufficiently reflect general trends in the reporting quality of RCT abstracts in occupational therapy journals. In addition, we acknowledge that our journal selection criteria prevented us from including *OTJR: Occupation, Participation and Health*, one of the most important journals in occupational therapy. We conducted a post hoc analysis of RCT abstracts published during the

study period in *OTJR* to check whether its inclusion would have changed our findings; we observed no relevant differences.

Second, we evaluated reporting quality in RCT abstracts based exclusively on the information provided in each abstract and title. We did not check this information against the full article, which was beyond the scope of this study.


Third, data extraction and article selection were performed manually by two researchers. To minimize misclassification bias, the researchers were randomly assigned the RCT abstracts, scored them independently, and were blinded to study identification details. Interrater agreement was excellent ( $\geq .80$ ). Moreover, we used an effective and reproducible methodology for study selection, data extraction, and scoring of reporting quality.

## Implications for Occupational Therapy Research and Practice

The findings of this study have the following implications for occupational therapy research and practice:

- More RCTs are needed to increase the body of evidence on the clinical effectiveness of occupational therapy and to provide a solid basis for evidence-based practice.
- Researchers and journal editors should require that abstracts for RCTs follow the CONSORT-A checklist to ensure reporting quality and avoid the potential for biased interpretations.
- In line with CONSORT-A recommendations, occupational therapy journals should allow RCT abstracts of up to 250 to 300 words.
- Occupational therapy journal editors should require RCT authors to complete the CONSORT checklist as part of the submission process.

## Conclusion

The quality of reporting in RCT abstracts in the five highest impact occupational therapy journals from 2008 to 2018 was far from optimal, especially in the methodological domain. When RCT abstracts fail to report sufficient detail, readers may misinterpret findings and potentially make ineffective clinical decisions. We recommend that occupational therapy journals require authors and peer reviewers to use the CONSORT for Abstracts checklist to promote adequate reporting and transparency in RCT abstracts. 

## Acknowledgments

Paula Fernández-Pires, Daniel Prieto-Botella, and Desirée Valera-Gran share first authorship of this article. The authors declare no conflict of interest. Alicia Sánchez-Pérez is on the editorial board of the *American Journal of Occupational Therapy* and had no role in the manuscript peer review process.

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