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Journal of Clinical Epidemiology 118 (2020) 115−118

Journal of Clinical Epidemiology

LETTERS TO THE EDITOR

Reporting of interventions used in anesthesiology trials: analysis using the Template for Intervention Description and Replication (TIDieR) checklist

Editor:

Multiple studies have shown that interventions are inadequately reported in published trials [1−3]. To improve the completeness of reporting and replicability of interventions, Hoffman et al. have published the Template for Intervention Description and Replication (TIDieR) Checklist in 2014 [4]. The aim of this study was to apply the TIDieR checklist to anesthesiology trials and assess reporting of interventions used in anesthesiology RCTs before and after the checklist publication.

We included a sample of trials published before (2011-2013) and after (2015-2018) the TIDieR publication, from anesthesiology journals with Google Scholar h5-indexes greater than or equal to 30 (*British Journal of Anesthesia; Anesthesiology; Anesthesia & Analgesia; Anaesthesia; Acta Anaesthesiologica Scandinavica; Canadian Journal of Anesthesia; and European Journal of Anesthesiology*). Title/abstract screening, evaluation of TIDieR adherence, and data extraction were performed by two investigators independently. We used an interrupted time series analysis to evaluate whether publication of TIDieR affected intervention reporting. In addition, we used generalized estimating equations (GEEs) to evaluate whether particular trial characteristics were associated with intervention reporting [5].

In 225 analyzed trials, the mean number of TIDieR items reported was 6.3 (SD = 1.1), of a possible 12. Five items were completely reported >80% of the time; these items include (1) phrase describing the intervention; (2) intervention rationale; (3) description of procedures; (4) description of the mode of delivery; and (5) number of times intervention was delivered/timing, dose, duration of intervention. Three items were reported in fewer than 5% of the trials; these items include (1) whether the intervention was modified, (2) plan for adherence/fidelity assessment, and (3) the extent to which the intervention was delivered as planned. Table 1 presents results per item for all analyzed trials, as well as for pre-TIDieR and post-TIDieR trials. None of the analyzed trials provided detailed description of intervention in line with all 12 TIDieR items. Results suggest that the publication of the TIDieR checklist did not result in an increase in percentage completion of the TIDieR checklist items ($P = 0.51$). Our GEE analysis found that having greater than 280 participants (IRR: 1.04, 95% CI: 1.02-1.06, $P < 0.001$) was associated with better TIDieR outcomes. More details about our methods and results can be found on Open Science Framework [6].

Completeness of intervention reporting is necessary for at least three reasons: (1) to reproduce the intervention in subsequent trials; (2) to reproduce the intervention in the clinical setting; and (3) to provide sufficient information for evidence synthesis. All three reasons are important for the advancement of clinical knowledge and practice.

In conclusion, interventions in recently published anesthesiology trials were not adequately reported. Suboptimal reporting is a major barrier for knowledge translation and implementation of those interventions in clinical practice. Interventions for improving reporting of interventions in trials are needed.

CRediT authorship contribution statement

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Conflict of interest: No conflicts declared.

Table 1
Comparison of compliance pre-TIDieR (2011-2013), post-TIDieR (2016-2018), and total

	2011–2013		2016–2018		Total 2011–2018 N = 225	
TIDieR checklist item[a]	***N* (%)**	**95% CI**	***N* (%)**	**95% CI**	***N* (%)**	**95% CI**
1. Phrase describing intervention	114 (50.7)	44.1–57.2	110 (48.9)	42.4–55.4	224 (99.6)	98.7–100
2. Intervention rationale	114 (50.7)	44.1–57.2	110 (48.9)	42.4–55.4	224 (99.6)	98.7–100
3. What: Physical or informational material provided	44 (19.6)	14.4–24.7	52 (23.1)	17.6–28.6	96 (42.7)	36.2–49.1
4. What: Description of procedures	98 (43.6)	37.1–50.0	100 (44.4)	38.0–50.9	198 (88.0)	83.8–92.2
5. Intervention provider expertise, training, background	34 (15.1)	10.4–19.8	33 (14.7)	10.0–19.3	67 (29.8)	54.1–66.8
6. Mode of delivery	115 (51.1)	44.6–57.6	109 (48.4)	41.9–55.0	224 (99.6)	98.7–100
7. Description of location	72 (32.0)	25.9–38.1	72 (32.0)	25.9–38.1	144 (64)	85.8–93.7
8. When: Number of times intervention delivered, timing, dose, duration	92 (40.9)	34.5–47.3	92 (40.9)	34.5–47.3	184 (81.8)	97.9–100
9. Description of intervention personalization, titration, or adaptation if applicable	26 (11.6)	7.4–15.7	19 (8.4)	4.8–12.1	45 (20.0)	31.0–43.7
10. If intervention was modified, was it described (what, why, when, how)	4 (1.8)	0.1–3.5	1 (0.4)	−0.4 to 1.3	5 (2.2)	0.8–5.4
11. Planned: If adherence/fidelity was assessed, was it described	0 (0)	0	0 (0)	0	0 (0)	0
12. Actual: If adherence/fidelity was assessed, did the authors describe the extent to whether the intervention was delivered as planned	0 (0)	0	0 (0)	0	0 (0)	0

[a] Items with "Yes, complete" responses.

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https://doi.org/10.1016/j.jclinepi.2019.11.004

Reasons for "awaiting classification" studies are often inadequate and underreported: a cross-sectional analysis of cochrane reviews

Whenever systematic review authors find a poorly reported study, the decision on whether to include it or not may be inaccurate as enough information does not exist for endorsing its conformity with the eligibility criteria. As the study may contribute to the analysis when the missing information become available, the authors may choose to code it as an "awaiting classification study"

Funding: CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior) provided a scholarship grant for the first investigator.
Conflict of interest: None declared.