

Student Research and Viewpoint Paper

Ethical Responsibility of Indian Medical Journals to Endorse Standard Reporting Guidelines

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The essence of medical writing for publication in the medical field is distilled into countless precepts to guide the author throughout the process [1]. Publications are essential for sharing knowledge, adding to the existing medical literature and advancement of one's career. As most graduate programmes in medicine do not offer hands-on training in writing and publishing in scientific journals, writing a research paper is a challenge for beginners [2]. The Covid-19 pandemic has ushered in a general feeling of skepticism among the lay public regarding the validity of published medical literature and this has encouraged a few journal editors to be demanding of authors and extremely particular about reporting guidelines [1]. Reporting guidelines have become very important tools in medical research. These guidelines improve the completeness, accuracy and transparency of reporting the crucial aspects of research studies [3]. This aids not only in accurate evaluation of the methodological quality of research and validity of the results, but also improves the quality of evidence synthesized from published data for application in practice. Improperly reported research raises questions regarding the validity and reliability of the research findings and results in wastage of important data [4]. A reporting guideline is essentially a checklist that enlists the bare minimum information that must be provided in any type of published article [5]. There are currently more than 300 different reporting guidelines for various study designs and health research disciplines –the most comprehensive source of these guidelines is the EQUATOR Network [6].

There have been many studies in the past which have assessed the compliance of articles published in different journals to these standard reporting guidelines. A study conducted by Susvirkar et al evaluated the compliance of randomized controlled trials (RCTs) published in the Journal of the American Medical Association (JAMA) and British Medical Journal (BMJ) in 2013 to the CONSORT statement of 2010 (CONSORT guidelines were originally published in 1996, subsequently modified in 2001 and again in 2010). The study reported that even high impact journals had poor compliance of reported trials with CONSORT guidelines [7]. While the onus of following these guidelines and reporting structured data lies with the author, it's important for the publishers to incorporate these guidelines in their 'Instructions to Authors' on the journal website. This would make any author wishing to submit a manuscript to the journal aware regarding the same.

We set out to evaluate the extent of endorsement of these guidelines by different journals. We visited and scrutinized the 'Instruction to Authors' section of the websites of 50 Indian journals from medical specialties indexed by PubMed. We documented the extent of endorsement of the commonly used standard guidelines – CONSORT, STARD, QUOROM, MOOSE, PRISMA, STROBE and CARE by each of these journals:

Name of Guideline	Used for Reporting...	Year of Publication
ARRIVE	Animal research: <i>in vivo</i> experiments	2010
CARE	Clinical cases	2013
CHEERS	Health economic evaluation	2013
CONSORT	Parallel-group randomized trials	1996
COREQ	Qualitative research (interviews and focus groups)	2007
ENTREQ	Synthesis of qualitative research	2012
PRISMA	Systematic reviews and meta-analyses	2009
PRISMA-P	Protocols of systematic reviews and meta-analyses	2015
SAMPL	Statistical analyses and methods	2013
SPIRIT	(Defining standard protocol items for clinical trials)	2013
SQUIRE	Quality improvement in health care	2008
SRQR	Quantitative research	2014
STARD	Studies of diagnostic accuracy	2003
STROBE	Observational studies	2004
TRIPOD	Multivariable prediction models for individual prognosis or diagnosis	2015

Fig-1: Reporting guidelines listed on the website of the EQUATOR network

- CONSORT (CONsolidated Standards Of Reporting Trials)
- STARD (STAndards for Reporting of Diagnostic accuracy studies)
- QUOROM (QUality Of Reporting Of Meta-analyses)
- MOOSE (Meta-Analysis Of Observational Studies in Epidemiology)
- PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)
- STROBE (Strengthening the Reporting of Observational studies in Epidemiology)
- CARE (CAse REport guidelines)

Sr. No	Journal Title	NLM ID	CONSORT	STARD	QUOROM/ MOOSE/ PRISMA	STROBE	CARE
1.	Annals of Cardiac Anaesthesia	9815987	Y	Y	Y	Y	N
2.	Asian Journal of Andrology	100942132	N	N	N	N	N
3.	Hepatology International	101304009	N	N.	N	N	N
4.	Indian Heart Journal	374675	N	N	N	N	N
5.	Indian Journal of Cancer	112040	Y	N	N	N	Y
6.	Indian Journal of Dental Research	9202990	Y	N	N	N	N
7.	Indian Journal of Dermatology, Venereology and Leprology	7701852	Y	Y	Y	Y	Y
8.	Indian Journal of Gastroenterology	8409436	Y	Y	Y	Y	Y
9.	Indian Journal of Medical Ethics	101214913	N	N	N	N	N
10.	Indian Journal of Medical Microbiology	8700903	Y*	Y*	Y*	Y*	Y*
11.	Indian Journal of Medical Research	374701	Y	Y	Y	Y	N
12.	Indian Journal of Ophthalmology	405376	Y*	Y*	Y*	Y*	Y*
13.	Indian Journal of Pathology and Microbiology	7605904	Y	Y	Y	Y	N
14.	Indian Journal of Pediatrics	417442	Y	Y	Y	Y	Y
15.	Indian Journal of Pharmacology	7902477	Y	N	N	N	N
16.	Indian Journal of Tuberculosis	373027	Y	N	N	N	N
17.	Indian Pediatrics	2985062	Y	Y	Y	Y	N
18.	International Journal of Mycobacteriology	101615660	Y	Y	Y	Y	N
19.	Journal of Biosciences	8100809	N	N	N	N	N
20.	Journal of Cancer Research and Therapeutics	101249598	Y	Y	Y	Y	N
21.	Journal of Genetics	2985113	N	N	N	N	N
22.	Journal of Postgraduate Medicine	2985196	Y	Y	Y	Y	N
23.	Journal of the Indian Society of Pedodontics and Preventive Dentistry	8710631	Y	N	Y	Y	Y

24.	Journal of Vector Borne Diseases	101212761	N	N	N	N	N
25	National Medical Journal of India	8809315	Y	Y	Y	N	N
26	Neurology India	42005	Y	N	N	N	N
27	Nigerian Journal of Clinical Practice	101150032	Y	Y	Y	Y	N
28	Noise and Health	9815620	N	N	N	N	N
29	The Journal of the Association of Physicians of India	7505585	N	N	N	N	N
30	Indian Journal of Nuclear Medicine	8901274	N	N	N	N	N
31	Indian Journal of Public Health	1400673	Y	Y	Y	Y	N
32	Indian Journal of Nephrology	8914356	N	N	N	N	N
33	Industrial Journal of Psychiatry	101547239	Y	Y	Y	Y	Y
34	Indian Journal of Chest Diseases and Allied Sciences	7612044	Y	Y	Y	Y	N
35	International Journal of Applied and Basic Medical Research	101579831	Y	Y	Y	Y	Y
36	Indian Journal of Family Medicine and Primary Care	101610082	Y	Y	Y	Y	Y
37	Journal of Global Infectious Diseases	101521436	Y	Y	Y	Y	N
38	Indian Journal of Psychological Medicine	7910727	Y*	Y*	Y*	Y*	Y*
39	Journal of Anaesthesiology Clinical Pharmacology	9516972	Y	Y	Y	Y	N
40	The Indian Journal of Radiology and Imaging	8503873	Y	N	N	N	N
41	Tropical Gastroenterology	8107122	N	N	N	N	N
42	Indian Journal of Dermatology	0370750	Y	N	N	Y	N
43	Indian Journal of Anaesthesia	0013243	Y	N	N	N	N
44	Indian Journal of Haematology and Blood Transfusion	9425818	Y	Y	Y	Y	Y
45	Indian Journal of Leprosy	8409173	N	N	N	N	N
46	Journal of Pharmacology and Pharmacotherapeutics	101552113	Y	N	N	N	N
47	Medical Journal Armed Forces India	7602492	Y	Y	Y	Y	Y
48	Indian Journal of Orthopaedics	0137736	N	N	N	N	N
49	Annals of Paediatric Cardiology	101495459	Y	Y	Y	Y	N
50	Indian Journal of Urology	8510441	N	N	N	N	N
Total			35(70%)	25(50%)	26(52%)	26(52%)	13(26%)

Table 1: Extent of endorsement of the five commonly used standard guidelines - CONSORT, STARD, QUOROM, MOOSE, PRISMA, STROBE and CARE, by 50 Indian journals from medical specialties indexed by PubMed (Y = guidelines were mentioned in the 'Instructions to Authors' section; N = Guidelines weren't mentioned; *denotes that a link to the website of the Equator Network was given on the journal's website for the authors to access all the reporting guidelines).

30% of the journals did not endorse even in a single reporting guideline in their 'Instructions to Authors.' 70% of the journals had mentioned the CONSORT guidelines on their respective websites. Only half of the journals endorsed the other guidelines; except the CARE guidelines, which were mentioned on the websites of only 26% of the evaluated journals directly or indirectly via the Equator Network. The CONSORT statement is the oldest reporting guideline (first published in 1996) while the CARE guidelines were published only recently in 2013. The higher degree of familiarity of authors and editors with CONSORT in comparison to other guidelines could be attributed to the same. The websites of a few journals such as the Indian Journal of Dermatology, Venereology and Leprology, Indian journal of Gastroenterology, Indian journal of Pediatrics and the Indian Journal of Psychiatry also displayed some of the other important reporting guidelines such as SQUIRE, AGREE, TRIPOD, SQRQ, PRISMA-P, RIGHT, ARRIVE, CHEERS, etc. Adherence of the published studies to standard reporting guidelines has been known to reflect in the impact factor of the journal. A study conducted by Ravi et al to assess adherence of published case reports to CARE guidelines among PubMed-indexed Indian medical

journals revealed that journals with an impact factor of more than 1 had a better adherence, relative to those with an impact factor lower than 1 [8]. To ensure that the authors adhere to the reporting guidelines, it is imperative for the journals to mention them in the 'Instruction to Authors' section of the website. This would lead to better quality of data reporting which would be beneficial to the entire medical fraternity at large.

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