Publication speed and advanced online publication: Are biomedical Indian journals slow?

Objective: The aim of this study was to identify the publication speed (peer review time and publication time) of biomedical Indian journals and identify the journals having the facility of advance online publication (AOP). Materials and Methods: Biomedical Indian journals were identified from the Journal Citation Report of 2013. Thirty original articles published between January 2012 and June 2014 were systematically selected from each journal. Information about the date of submission, revision, and acceptance were extracted from the full text of the articles. Median peer review time (submission to acceptance) and publication time (acceptance to AOP/electronic publication) were calculated for each journal. Results: Of the 19 journals studied, 5 (26.3%), 15 (78.9%), and 6 (31.6%) journals did not mention details about date of submission, date of revision, and date of acceptance, respectively. The individual median peer review time of the journals ranged from 87 to 377.5 days and the combined median peer review time (interquartile range) was 143.5 days (105.5, 238). The individual median publication time ranged from 14 to 349 days. The publication time for journals with AOP was significantly lesser (29.5 [19.6, 50.6] vs. 146.5 [126.5, 202.5]; \( P = 0.02 \)) compared to journals without AOP. Impact factor of the journal did not correlate with the publication speed. The facility of AOP was provided by 6 (31.6%) journals. Conclusions: Overall, the peer review time and publication time of biomedical Indian journals included in our study seems to be fairly long. Less than one-third of biomedical Indian journals provide the facility of AOP.

Key words: Medical publishing, research, publication delay

INTRODUCTION

The process of publication has changed significantly over the past years. Manuscript preparation and submission that was hand written and postal has now become electronic. With the introduction of electronic publication in 1980\textsuperscript{[1,2]} manuscripts were available even before the print version. A relatively recent feature of advance
online publication (AOP) has further decreased the publication time leading to early dissemination of research information.[3,4] Article that is published as AOP is the final version of the manuscript that is copyedited and proofed by the authors. They may not be assigned a print volume or issue but are indexed in databases and can be cited using the digital object identifier.[3,4]

Behind every manuscript is months and at times years of planning and efforts from the authors to carry out the study. The end result of which is the dissemination of the research findings achieved through the publication. Faster publication would ensure that the manuscript is available early to the readers. In the present scenario where publications have personal and financial outcomes, researchers prefer their work to be published promptly. In a recent survey, authors reported that one of the reasons for choosing to publish in a mega journal was the faster review and publication process.[5]

To our knowledge, publication speed of biomedical Indian journals has not been studied. Hence, we studied the publication speed (peer review time and publication time) of biomedical Indian journals and looked at its trend in publications between January 2012 and June 2014. We looked for correlations between publication speed and journal impact factor (IF). The differences in publication speed of journals with and without AOP were also studied.

**MATERIALS AND METHODS**

Journals listed in the Journal Citation Report (JCR) of 2013 from the Thomson Reuters website (http://admin-apps.webofknowledge.com/JCR/JCR; accessed July 15, 2014) were sorted with country/territory as India. The list was screened, and journals of biomedical specialty were identified and included for the study. Figure 1 details the procedure of journal and article selection. First original article of each issue appearing on the website of the journals published between January 2012 and June 2014 was selected. To maintain uniformity across the journals, we systematically selected the first original article from each issue. If the journal had 6 or less issues/year, then based on the number of issues, first 2, 3 or 4 articles were selected. For example, Indian Journal of Dermatology Venereology and Leprology publishes bimonthly (6 issues/year) so first 2 original articles were included from each issue. Similarly, Annals of Indian Academy of Neurology publishes quarterly (4 issues/year) so first 3 original articles were included from each issue. If this required number of 2, 3 or 4 articles was not met with an issue, then additional article(s) was selected from a previous/subsequent issue. Thus, we obtained a total of 30 original articles, 12 each for the year 2012 and 2013 and 6 for the year 2014 from each journal. Review articles, brief reports, editorials, and correspondence were not included. Special issues were also excluded.

The date of submission, revision, and acceptance were extracted from the full-text portable document format of the articles. The date of publication was considered as the date when the article was first available for the readers to be cited. This date was the date of online in advance publication for journals with AOP and date of electronic/web publication for journals without AOP. The date of publication in the print version of the journal was not studied as the print version is generally made available later. The data extraction was carried out by two investigators independently. The third investigator verified and resolved the discrepancies in discussion with the two investigators. Thus, the time taken from the submission to acceptance, acceptance to publication and submission to publication were calculated for each journal. We considered peer review time as the “time from submission to acceptance” (including the time taken for revision)
and publication time as the “time from acceptance to publication (AOP/electronic).”

**Statistical analysis**

Data analysis was carried out using the Statistical Package for Social Sciences (SPSS) version 16 (SPSS Inc., Chicago, IL, USA) and a $P \leq 0.05$ was considered to be significant. Median and Interquartile range (IQR) were calculated for all the variables. The Mann–Whitney U-test was used to identify the differences in peer review, publication time and time from submission to publication for journals with and without AOP. The Wilcoxon signed rank test was used to compare the difference between acceptance to online in advance publication and acceptance to electronic publication for the journals having AOP. The Friedman’s test was used to study the trend in peer review, publication time and time from submission to publication by comparing their medians for the year 2012 (January to December), 2013 (January to December) and 2014 (January to June). Nonparametric correlation was used to study the correlation between IF and variables of publication speed.

**RESULTS**

A total of 93 Indian journals were identified in the JCR list of 2013. The list was screened, and 20 journals of biomedical specialty were obtained. Journals of other specialties were like physical, biological, life sciences; dental, pharmaceutical, and veterinary sciences were excluded. One journal (Annals of Thoracic Medicine) was excluded as its publisher was not an Indian agency. Thus, a total of 19 biomedical Indian journals were included, of which 5 (26.3%), 15 (78.9%) and 6 (31.6%) journals did not mention details about date of submission, date of revision and date of acceptance, respectively [Table 1]. The facility of AOP was provided by 6 (31.6%) journals.

We obtained information about publication speed of 14 journals from a total of 420 original articles. Table 2 details the IFs and variables of publication speed of individual journals. The individual median peer review time (submission to acceptance) of the journals ranged from 87 to 377.5 days. The combined median (IQR) peer review time was found to be 143.5 days (105.5, 238). The individual median publication time (acceptance to AOP/electronic) ranged from 14 to 349 days.

In the Mann–Whitney U-test, the median time from acceptance to publication for the journals having AOP was found to be significantly less (29.5 [19.6, 50.6] vs. 146.5 [126.5, 202.5]; $P = 0.002$) compared to the journals that did not have AOP. However, there was no statistically significant difference in the median time from submission to publication (239.5 [183.7, 336.8] vs. 294.7 [259.1, 513.6]; $P = 0.181$) between the journals. No statistically significant difference was seen in the median peer review time between the journals that have, do not have AOP (193 [133.5, 286.3] vs. 114 [92, 144.5]; $P = 0.108$).

In the Wilcoxon sign ranked test, the time from acceptance to online in advance publication was significantly lesser than the time from acceptance to electronic publication (29.5 [19.6, 50.6] vs. 254 [216, 375]; $P = 0.031$) for journals with AOP. In the Friedman’s test, there was no statistically significant difference in the median peer review time between the journals that have, do not have AOP (193 [133.5, 286.3] vs. 114 [92, 144.5]; $P = 0.531$), submission to publication time for journals

| Journal name                                           | Date of submission | Date of revision | Date of acceptance | AOP |
|--------------------------------------------------------|--------------------|------------------|--------------------|-----|
| Annals of Indian Academy of Neurology                   | Yes                | Yes              | Yes                | No  |
| Indian Journal of Dermatology Venereology and Leprology | Yes                | No               | Yes                | No  |
| Indian Journal of Hematology and Blood Transfusion     | Yes                | No               | Yes                | Yes |
| Indian Journal of Medical Microbiology                  | Yes                | No               | Yes                | No  |
| Indian Journal of Medical Research                      | Yes                | No               | No                 | No  |
| Indian Journal of Microbiology                          | Yes                | No               | Yes                | Yes |
| Indian Journal of Ophthalmology                        | Yes                | No               | Yes                | No  |
| Indian Journal of Orthopedics                          | No                 | No               | No                 | No  |
| Indian Journal of Pathology and Microbiology            | No                 | No               | No                 | No  |
| Indian Journal of Pediatrics                            | Yes                | No               | Yes                | Yes |
| Indian Journal of Surgery                               | Yes                | No               | Yes                | Yes |
| Indian Pediatrics                                      | Yes                | Yes              | Yes                | Yes |
| International Journal of Diabetes In Developing Countries| Yes                | No               | Yes                | Yes |
| International Journal of Human Genetics                 | No                 | No               | No                 | No  |
| International Journal of Shoulder Surgery               | No                 | No               | No                 | No  |
| Journal of Cancer Research and Therapeutic              | No                 | No               | No                 | No  |
| Journal of Minimal Access Surgery                       | Yes                | No               | Yes                | No  |
| Journal of Postgraduate Medicine                        | Yes                | Yes              | Yes                | No  |
| Neurology India                                         | Yes                | Yes              | Yes                | No  |

AOP=Advance online publication
DISCUSSION

We studied the publication speed (peer review time and publication time) of 19 biomedical Indian journals. Details about all the 3 variables (date of submission, date of revision, and date of acceptance) were mentioned only by 4 (21.1%) journals. Five journals (26.3%) did not give details about any of the three variables. Our study illustrates that the peer review time, publication time and time from submission to publication ranges widely and are somewhat longer for the biomedical Indian journals compared to journals of other specialty. In a similar study done in ophthalmology journals, the combined median peer review time for the year 2010 was 100 days and the individual median peer review time ranged from 35.5 to 263 days. For a 1-year period between 2005 and 2006, the mean peer review time and time from submission to publication for head and face medicine were 95.9 days and 99.3 days respectively. The median peer review time (not including the time taken for revision) for Croatian Medical Journal from February 1998 to December 2001 was 29 days. Manuscript processing and publication are a multifaceted process requiring meticulous efforts and planning from authors, reviewers, and the editorial team. The entire process may be delayed for several reasons. (1) Exceedingly large number of submissions, (2) slow editorial process due to lack of resources and manpower (3) difficulty in identifying the appropriate reviewers (4) reviewers exceeding the review deadline (4) authors taking a long time to make revisions especially when major revisions are suggested (5) delays in proofreading and final editing by authors after acceptance (6) a large backlog of articles in press and (7) high acceptance rate are some common reasons. One reason that could be relevant to the Indian scenario is that there may be editors working pro bono with other commitments and not receiving any monetary or in-kind benefits. Journals with faster publication are recommended and considered by authors before submitting their work to a journal. This is also important for the ethical responsibility of timely dissemination of research findings. Thus, if biomedical Indian journals have

![Figure 2: Trend in the peer review and submission to publication time between January 2012 and June 2014](image)

### Table 2: Publication times and IF of biomedical Indian journals

| Journal name                                             | IF     | Time between submission and acceptance | Time between acceptance and publication (AOP/electronic) | Time between submission and publication (AOP/electronic) |
|----------------------------------------------------------|--------|----------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Annals of Indian Academy of Neurology                    | 0.514  | 87 (42.7, 124.2)                       | 166 (107.7, 219.5)                                      | 264 (209, 340.2)                                       |
| Indian Journal of Dermatology Venerology and Leprology   | 1.325  | 92 (61.7, 151.2)                       | 137 (109.2, 177.2)                                      | 265 (204.7, 317)                                       |
| Indian Journal of Hematology and Blood Transfusion       | 0.234  | 166 (119, 238.5)                       | 27 (19, 51)                                            | 203 (146.2, 270.5)                                      |
| Indian Journal of Medical Microbiology                   | 1.037  | 118 (85.7, 188)                        | 126.5 (84.5, 156.2)                                    | 257.5 (195.7, 343.2)                                    |
| Indian Journal of Medical Research                       | 1.661  |                                       |                                                       |                                                       |
| Indian Journal of Microbiology                           | 0.832  | 103.5 (23.7, 191.5)                    | 14 (10.7, 24.2)                                        | 126 (66, 254.2)                                        |
| Indian Journal of Ophthalmology                          | 0.922  | 256 (207, 341.2)                       | 202.5 (10.2, 373)                                      | 523.5 (405, 710.5)                                      |
| Indian Journal of Orthopedics                            | 0.624  | -                                      |                                                       |                                                       |
| Indian Journal of Pathology and Microbiology             | 0.642  | -                                      |                                                       |                                                       |
| Indian Journal of Pediatrics                             | 0.919  | 220 (137.7, 338.7)                     | 32 (22, 44)                                            | 260 (162.2, 372)                                       |
| Indian Journal of Surgery                                | 0.273  | 256 (144.2, 413.5)                     | 21.5 (15, 31.7)                                        | 299.5 (175.2, 436.5)                                    |
| Indian Pediatrics                                        | 1.014  | 143.5 (103.7, 197)                     | 49 (15, 90)                                            | 219 (145, 266)                                         |
| International Journal of Diabetes in Developing Countries | 0.373  | 377.5 (284.2, 499.5)                   | 55.5 (29.7, 78.5)                                      | 449 (320, 561.2)                                       |
| International Journal of Human Genetics                  | 0.155  | -                                      |                                                       |                                                       |
| International Journal of Shoulder Surgery                | 0.513  | -                                      |                                                       |                                                       |
| Journal of Cancer Research and Therapeutics              | 0.949  |                                       |                                                       |                                                       |
| Journal of Minimal Access Surgery                        | 1.374  | 107.5 (70.7, 140.2)                    | 349 (284, 408.5)                                       | 484 (414.5, 534)                                       |
| Journal of Postgraduate Medicine                         | 0.972  | 144.5 (102.2, 215.5)                   | 146.5 (110.7, 228.5)                                   | 324.5 (260, 506.5)                                      |
| Neurology India                                          | 1.084  | 114 (76.7, 165.5)                      | 50 (40, 80.2)                                          | 185.5 (137, 212.5)                                      |

AOP=Advance online publication, IF=Impact factor
to match the international standards, then appropriate steps have to be taken by the editors, authors, and reviewers to ensure faster publication. We hope that details about the date of submission, revision, and acceptance are mentioned by all journals which will facilitate the authors to decide before submitting to a journal.

Another important finding of our study is that the median publication time for journals that publish online in advance was found to be only 29.5 days (19.6, 50.6). The trend in time from submission to publication over the period of January 2012 to June 2014 for the journals with AOP also shows a positive decrease, however, this was not statistically significant. Nevertheless, it is discouraging for researchers of the Indian community that less than one-third (31.6%) of biomedical Indian journals have the facility of AOP. This could be because of financial, technical, and infrastructural constraints of biomedical Indian journals. Several biomedical Indian journals that do not have AOP, mention only the title of forthcoming articles under the ahead of print section in their website. This information is however of not much use to the readers. We hope that the number of journals with AOP increase in the future. Unlike reported previously, we did not find any correlation between the variables of publication and IF. This could be because of the narrow range of IF (0.234–1.661) of biomedical Indian journals. Another reason could be the low number of issues and articles published by the journals in a year.

Several limitations of our study are worth mentioning. First, the findings cannot be generalized to all biomedical Indian journals as we studied only the journals that were listed in the JCR of 2013. Second, it may be argued that the duration of 30 months is narrow to identify the trend in the publication speed. Third, we did not consider the time taken by the authors for revision as this may vary considerably. Fourth, publication delay is usually described in relation to the date of print publication, but we explained it with respect to the date when the article is first available for the readers to be cited. Fifth, we did not study factors like cited half-life and immediacy index of the journals. It would be interesting to study in the future the trend in publication speed for a longer duration and also compare it with journals that do not have an IF.

**CONCLUSIONS**

Overall, the peer review and publication time of biomedical journals included in our study seems to be fairly long. Less than one-third (31.6%) of biomedical journals included in the study provided the facility of AOP. IF does not correlate with variables of publication speed. Collective efforts by authors, reviewers, and editors are required to enhance publication speed and ensure that manuscripts are available early for the readers. It is our hope that in the future, there is an increase in the number of biomedical Indian journals providing the facility of AOP.

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**Conflicts of interest**

There are no conflicts of interest.

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