Trends in Authorship in an Indian Pediatric Dentistry Journal: Relevance of Matthew Effect

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Materials and methods: It was hypothesized that the Matthew effect is applicable to the work published by Indian Pedodontists in the official publication of Indian Society of Pedodontics & Preventive Dentistry (JISPPD). The names of the authors in JISPPD from 1996 to 2011 were recorded year wise and the data was entered in Microsoft excel 2007 and analyzed using SPSS software.

Results: The study revealed that there were a total of 823 papers published in JISPPD during the study period (1996 to 2011) by 1142 authors. 71.6% authors had contributed only one paper and 14.4% authors had contributed two papers during the study period. Only 0.6% authors had contributed to 20 or more papers.

Conclusions: The results of the study showed that the Matthew effect is prevalent in the publication trends in JISPPD.

Key words: Indian, Pediatric dentist, Matthew effect, publication trends.
the year all four issues are available online. Issues of year 2012 were not included in the study as all the issues had not been available online at the time of study. A total of 823 papers were retrieved from the journal since 1996. The names of all the authors in the Journal of Indian Society of Pedodontics & Preventive Dentistry were recorded year wise. Names of 1144 authors were retrieved who had a minimum of one publication in the journal. The data and was entered in Microsoft excel 2007 and analyzed using SPSS software. This whole process was done by two authors and randomly rechecked by the other two authors. Ethical approval was not required for this study as it does not constitute biomedical research or involve human or animal subjects. All the information used in this study was available in the public domain.

3. RESULTS

Overall, 823 papers published during the study period were analyzed. These comprised of original research, case reports, review articles, letter to editor, guest editorials and editorial commentary. The total number of editorials was 44 and there was two letters to the editor. These were excluded from the study. The total number of authors was 1142. Amongst these the maximum number of new authors was added after 2007. During the time period of 1996-2006, the total number of authors was 590 for 463 papers (table 1) whereas 548 new authors were added with a total of 360 papers from 2007 onwards. The total number of authors per paper was 2.87(range 1-8). 71.6% authors had contributed only one paper and 14.4% authors had contributed two papers during the study period. Only 0.2% authors had contributed to more than 50 papers. Only 2.4% of the authors had contributed to ten or more papers.

One more interesting finding from the data is that after year 2007 till 2011, about 92 new authors on an average contributed into the articles of the journal whereas, it was about 30 only for the period of 2001-2006.

4. DISCUSSION

The implication of Matthew effect in authorship for scientific articles has been considered as an unavoidable bias in the literature and a rapidly progressive field with novel inventions will not abide by Matthew effect. In order to study whether Matthew effect is prevalent in the authorship trends of Indian pediatric dentists, the present study was planned. With this goal in mind, the official publication of ISPPD, i.e., JISPPD was analyzed. This is one of the oldest Indian dental journals indexed in PubMed/MEDLINE as well as various other indexing sites such as Caspur, DOAJ, EBSCO Publishing’s Electronic Databases, Expanded Academic ASAP, Google Scholar, Hinari, Index Copernicus, MedInd, Index Medicus, National Science Library, Scimago Journal Ranking, SCOPUS etc (9).

The results obtained in this study shows skewed distribution towards some prominent authors in publications in the journal. The majority of papers were contributed by a handful of authors only. On the surface it might appear as the Matthew effect is prevalent in the field. However it should be kept in mind that these are older and more experienced researchers. The high number of their publications may also be due to the longer time spent by these in the field as compared to newer entrants.

An interesting finding of this study was that various new authors were added from year 2007. When analyzed in detail, the average number of addition of new authors per year in the Journal of ISPPD from year 2007 was about 90 whereas it is about 30 from year 2001 to 2006. The reason for such a finding might be that the regulatory body for dental education in India, i.e., Dental Council of India (DCI) issued a notification regarding revision of minimum requirements for becoming teaching faculty in dental schools in India (10). According to this notification, each faculty member should have a certain number of publications to their credit. This might be the impetus for several
researchers to publish their work and a sudden splurge of new authors. The reasons for excluding editorials from the study are obvious as inclusion of the same could have led to a skewed data in favor of the journal editors. A large number of foreign authors also formed a part of the contributors thus reducing the number of publications of Indian authors in year 2004. (Figure 2)

One of the limitations of this study is that although the journal chosen for the study is being published since 1983, however, only the issues available online from year 1996 could be included. Thus the true picture of the trends of the previous years could not be elicited. Moreover, a total of four issues were not available online and few authors had similar names or initials leading to confusion in their identity. Another limitation is that due to the social norm of change in the surname of females in India after marriage, it is possible that same author being counted twice. This however formed a very small percentage and the difference would not have affected the results grossly.

5. CONCLUSION

Our findings suggest that about 2.1% of total number authors are contributing in almost 50% of the publications in JISPPD. Such bias depreciates the value of the work done by lesser known authors and negatively impacts scientific output.

REFERENCES