Attitude of Indian dental professionals toward scientific publications: A questionnaire based study

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Abstract

Background: Due to competitiveness and academic benefits, most dental professionals feel an urgent need to increase their publications. Hence, we explored the attitude of students and faculty members toward scientific publications through a questionnaire.

Materials and Methods: A questionnaire consisting of 13 questions was sent by e-mails and posting the printed copies to dental postgraduate (PG) students (second and third year) and faculty members (n = 500 each). The returned completed questionnaires were analyzed.

Results: About 37% of dental PG faculty and 35.6% PG students responded to the questionnaire, with overall response of 72.6%. Among the PG faculty, professors (P) had more scientific publications, followed by senior lecturers (SL) and readers (R). The publications as first or corresponding author were less among both faculty and PG students while co-authorship was more among PG students compared to faculty members. Awareness about the term “plagiarism” was overall high and relatively highest among R, followed by SL, P and PG students. The percentage of publications in fee charging journals was more among PG students than faculty members and self-funding for publication was observed in 86.4% of PG students and 94-100% among faculty members.

Conclusion: About 72.6% of dental professionals were involved in publishing of their research work and the number of publications increased steadily with an increase in their academic experience. All the dental professionals concurred publications as the criteria for academic excellence.

Key words: Attitude, dental professionals, plagiarism, questionnaires

INTRODUCTION

The criteria to award minimum specified points to dental postgraduate (PG) faculty members (senior lecturers [SL]; Readers [R] and Professors [P]) based on the nature of their scientific publications was introduced by Dental Council of India (DCI) to promote research work and academic development of PG students and faculty members.[1] This has led most authors attracted to fee charging and/or open access journals that provide a relatively easy way of publishing their scientific work. However, the negative impending impacts of not getting literature or research published on regular basis is pushing researchers to resort to unfair practices in order to increase their chances of acceptance into various distinguished journals.[2-6] As the number of scientific articles authored by a researcher is the major criterion for the promotion, salary increments of researchers are also impacted. This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

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of faculty members and is one of the criteria in curriculum for completion of medical/dental PG degree in India, it is likely that such unfair practices may be higher among more inexperienced members of the profession.\textsuperscript{[1]} Hence, this study was conducted with an aim to know the attitude of Indian dental professionals toward scientific publications and concept of plagiarism through a framed questionnaire. The objectives of study were to evaluate:

1. The attitude of dental professionals with different designations toward number of publications,
2. The interest and opinion regarding publications in various journals, magazine, and newspapers,
3. The opinion regarding publications in indexed/nonindexed journals,
4. Whether the professionals wish to include the criteria of publications for academic rewards and progress.

**MATERIALS AND METHODS**

The present cross-sectional study was conducted from March to October 2014, with 500 dental PG faculty members (SL, R and P) and 500 PG students (second and third year) participating from various dental colleges in India. The designed questionnaire was sent to all the participants, via electronic media (E-mail) and by post. They were requested to fill the questionnaire within 2 days and those who did not respond within the given time, a reminder note was sent to them. At the end of the study, a total of 370 dental PG faculty and 356 PG students responded to the questionnaire. The questionnaire was reviewed and approved by the Institutional Ethical Committee and included a written informed consent of participant.

The pertinent literature-related to plagiarism and attitude of researchers towards scientific publications (especially toward open accesses/paid journals) was reviewed and a questionnaire consisting of 13 questions was developed [Table 1]. The validity of questionnaire was evaluated and approved by a panel of experts in the field of epidemiology. The reliability of the questionnaire was investigated by conducting a pilot study on 25 participants internally. Some minor changes were done to make the questionnaire more clear and understandable. The participants completed the questionnaire anonymously and voluntarily. The experience of participants was recorded through their academic designations (SL ≤4, R with 4-9 and P ≥9 years of experience). In this study, the fee charging journals were considered under open access category, whereas nonfee charging journals were considered under nonopen access. The data collected was tabulated and subjected to statistical analyses using SPSS software version 20.0 (Statistical Product and Service Solutions, SSPC Inc., Chicago, IL, USA).

**RESULTS**

A total of 1000 questionnaires were distributed, out of which 726 were evaluated for the study, with an overall response rate of 72.6%. The response rate was higher for dental PG faculty (37%) as compared to PG students (35.6%). Among the PG faculty members, highest number of responses were received from SL, followed by R and P. The response was higher from male PG students, SL and P, whereas more number of female readers responded to the questionnaire. The DCI nonregistered/renewed percentage was observed more among PG faculty (1.3%) than PG students (1.1%) [Table 2]. The maximum response rate towards questionnaires was from the specialty of oral medicine and radiology for both PG students and faculty [Table 3]. The maximum number of publications was observed among P followed by SL and R. While the publications as first or corresponding author was less among both faculty members and PG students. The percentage of co-authorship was more among PG students (64.4%). Among the PG faculty, co-authorship was highest among SL (56.06%), followed by P (52.54%) and R (49.04%). The scientific publications in books and

### Table 1: Survey questionnaire

| Questions                                                                 | Options                                                                 |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Name of participant (optional)/gender                                    | Faculty (senior lecturer, reader, professor) P.G student                 |
| Designation                                                              | Yes/no                                                                   |
| Specialty                                                                | Journals/others (magazine, newspapers)                                   |
| State dental registration                                                | PubMed/MEDLINE indexed/others                                            |
| Total number of publications                                             | Open access/nonopen access (nonpaid)                                    |
| Number of publications as main author                                    | Self/funding body                                                        |
| Number of publications as co-author                                      | Yes/no                                                                   |
| Number of publications in Journals/others (magazine, newspapers)         | Yes/no/no/no comment                                                     |
| Number of articles published in PubMed/MEDLINE indexed/others            |                                                                         |
| If paid, source of payment                                               |                                                                         |
| Whether you are familiar with word plagiarism/publication ethics?        |                                                                         |
| Should publication be criteria for academics? (reason in 50 words)       |                                                                         |
magazines as compared to scientific journals were less among both PG students and faculty.

The nonindexed scientific publications were highest among P and PG students (0.09% each), followed by R (0.6%) and SL (0.5%). The publications in PubMed indexed journals were noticed maximum among R (42.5%), P (41.8%) followed by SL (38.5%) and PG students (27.3%). The percentage of fee charging or open access publications were more among PG students (37.24%) and SL (29.80%). Self-funding for publications was observed in 86.4% PG students and 94-100% among faculty members. 91.9% R were aware about the term "plagiarism," followed by 91.07% SL, and 90% P, whereas the PG students showed 83.9% of awareness. 67.8% R, 77.4% SL, 77.5% PG students and 78.5% P agreed publication as the criteria for up-gradation in academics [Table 4].

**DISCUSSION**

Although the process of scientific publications is a means to upgrade the knowledge of PG students and for academic excellence of faculty; the overemphasis on publications being the sole eligibility criteria during PG studies, academic jobs and promotions has led to pressure among professionals to publish. In our assessment of attitude of dental professional on scientific publications, the maximum response rate toward questionnaire was noted from PG students and SL because of demand for good academic jobs, which in turn require scientific publications, which is one of the eligibility criteria set by DCI. Moreover, the total numbers of publications were higher among P followed by SL. This is due to large academic experience at professorship, while at senior lectureship, qualifying for good academic jobs and further promotions, are the reasons for more publications. There is also a steady increase in publication numbers since 2005 with a boom from 2010 onwards, which may be attributed to increase in the number of dental colleges and hence PG students. DCI in 2007 issued revised MDS course regulations, which required a certain minimum number of publications for PG teaching. In 2011, DCI has introduced eligibility criteria for PG teaching and point system based on number of publications. Due of this criteria, all the PGs have increased pressure to publish, to meet the eligibility set by DCI. Due to such pressures the PGs sometimes...
reluctantly adopt false practices and fall into crime of plagiarism including improper referencing. Many Indian researchers including senior researchers are not sensitized to plagiarism, but ignorance in this field is considered to be unethical. Incidentally, in the present study, awareness about plagiarism was high among dental PG students than faculty probably due to increased demand of number of scientific publications and the use of plagiarism detection software by various journal authorities.

The quality of journal is reflected by its indexation. The indexed journals are considered to be of higher scientific quality as compared to nonindexed journals. Multiple indexing services bring us to important question on how to merit the various indexation services? In this study, the percentage of published PubMed indexed journal articles were more among dental faculty than PG students. This might be due to less research experience, article writing skills and awareness about plagiarism among PG students. The results also reflect the efforts being undertaken by Indian dental academicians for research presence in the international settings through PubMed databases.

It is generally agreed that an author is one who has made substantial contribution to the intellectual content, including conceptualizing and designing the study; acquiring, analyzing and interpreting the data. According to DCI point system, the first author in case report manuscripts and first two authors in research manuscripts are awarded more points than rest of co-authors for a given indexed published scientific article. The present study showed that the percentage of first author/corresponding authorship is more among faculty than PG students. This may be again be due to more experience of conducting, writing and submitting the manuscripts by faculty members. Among faculty members, co-authorship was higher by SL than R and P. The reason may be the pressure of good academic jobs immediately after completion of MDS course.

Some journals charge a fee for submission, online access, manuscript editing, fast editorial processing, peer review, color photographs prints and for giving reprints to the authors. The “processing fee virus” was endemic in late 20th century, became epidemic in early 21st century and is now pandemic. Our study revealed that SL showed the maximum number of publications in fee charging journals due to an urge to publish the articles as quickly as possible, which is often facilitated by these journals. It was observed that besides faculty members, there was a high percentage of self-funding among PG students for their publications.

The maximum response rate toward questionnaires was noted from the specialty of oral medicine and radiology, followed by community dentistry and oral and maxillofacial pathology for both PG students and faculty. This may be due to the reason that people from these three specialties are more active in academics, whereas rest of the specialists are more involved in clinical practice.
Maximum percentage of PG students and faculty thought that scientific publications should be the criteria of rewards in academic progression and this kind of evaluation although cold and calculistic it is nevertheless cannibalizing the higher education system. Through publications we can impart, share knowledge, facilitate learning the students and add to the results of existing research data. Also as a part of PG curriculum, we have to train the students in research methodology by means of research work and this exercise of point system by DCI, can give them experience in the art of publications.

CONCLUSION

A number of dental professionals are involved in publications and the number of publication tends to be higher with increase in their professional experience. The dental professionals are more keenly interested in publishing in indexed journals rather than in magazines and newspapers. Furthermore, there is an agreement between the dental professionals that publications should be the criteria for academic excellence.

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Conflicts of interest
There are no conflicts of interest.

REFERENCES

1. Criteria for Considering the Articles/Publications in Various Journals for Starting/Increase of Seats in MDS Courses for the Session 2012-2013. Annexure A. Dated 10/08/2011 Dental Council of India. Available from: http://www.dciindia.org/annoncment_pdf_files/pdf_files/ELIGIBILITY%20CRITERIA%20TO%20BEGIN%20A%20PG%20TEACHER.pdf. [Last accessed on 2014 Dec 10].
2. Gheradaghi MH, Nouri jelyani K, Salehi Sadaghian M, Yousefzadeh-Fard Y, Gheradaghi A, Javadan P, et al. Knowledge of medical students of Tehran University of Medical Sciences regarding plagiarism. Acta Med Iran 2013;51:418-24.
3. Kumar PM, Priya NS, Musalaiah S, Nagasree M. Knowing and avoiding plagiarism during scientific writing. Ann Med Health Sci Res 2014;4:S193-8.
4. Bipeta R. Plagiarism: A cause for concern. J Psychol Med 2012;13:2-6.
5. World Association of Medical Editors. Publication Ethics Policies for Medical Journals. Available from: http://www.ame.org/resources/publication-ethics-policies-for-medical-journals. [Last accessed on 2014 Sep 26].
6. Ghajarzadeh M, Norouzi-Javidan A, Hassanpour K, Aramesh K, Emami-Razavi SH. Attitude toward plagiarism among Iranian medical faculty members. Acta Med Iran 2012;50:778-81.
7. Balaram P. Science in India: Signs of stagnation (Editorial). Curr Sci 2002;83:193-4.
8. Dhillon JK, Gill NC. Contribution of Indian pediatric dentists to scientific literature during 2002-2012: A bibliometric analysis. Acta Inform Med 2014;22:199-202.
9. Shirazi B, Jafarey AM, Moazam F. Plagiarism and the medical fraternity: A study of knowledge and attitudes. J Pak Med Assoc 2010;60:269-73.
10. Bilic-Zulle L, Frkovic V, Turk T, Azman J, Petrovecki M. Prevalence of plagiarism among medical students. Croat Med J 2005;46:126-31.
11. Ryan G, Bonanno H, Krass I, Scoulter K, Smith L. Undergraduate and postgraduate pharmacy students' perceptions of plagiarism and academic honesty. Am J Pharm Educ 2009;73:105.
12. Kim SY. Plagiarism detection. Korean J Fam Med 2013;34:371.
13. Balhara YP. Indexed journal: What does it mean? Lung India 2012;29:193.
14. Kejariwal D, Mahawar KK. Is your journal indexed in PubMed? Relevance of PubMed in biomedical scientific literature today. Webmedcentral MISCELLANEOUS 2012;3(3):WMC003159:1-7.
15. Hofmann B, Myhr AI, Holm S. Scientific dishonesty — a nationwide survey of doctoral students in Norway. BMC Med Ethics 2013;14:3.
16. Al Lamki L. Ethics in scientific publication: Plagiarism and other scientific misconduct. Oman Med J 2013;28:379-81.
17. Dental Council of India. Revised MDS Course Regulation; 2007. p. 3-4. Available from: http://www.dciindia.org/dcirulagation_2006_pages/pdf_files/Revised%20Regulations%202007.pdf.[Last accessed on 2014 Dec 10].
18. Bedi N. Medical research misconduct need regulatory reforms. Indian J Community Med 2014;39:194-6.