Proceedings of JOMFP panel discussion on publication, ethics and research, held in XVII National IAOMP PG Convention 2018

A scientific journal is a periodical publication intended to further the progress of science, usually by reporting new research. Any scientific journal's repute is estimated by the scientific content and the quality of the manuscripts it publishes. In this regard, the editorial team of this journal led by its editor-in-chief (2017–2019) planned to conduct a panel discussion to create awareness on the finer aspects of the research and publications for our authors, reviewers and readers The program was organized during the XVII National Postgraduate (PG) Convention of the Association at Sri Ramachandra Dental College and Hospital, Chennai, on July 8, 2018.

The Hon. Editor-in-Chief, Prof. Smitha T (ST) moderated the session along with the panel members, namely Prof. B. Sivapathasundaram (SPS), Former Editor-in-Chief of JOMFP, Prof. and Head, Meenakshi Ammal Dental College and Hospital, Chennai; Prof. Raghu Radhakrishnan (RR), Director, International Affairs and Collaborations at Manipal Academy of Higher Education, India; Prof. Rooban Thavarajah (RT), Ragas Dental College and Hospital, Chennai; Prof. Aravindha Babu (AB), Sri Balaji Dental College and Hospital, Chennai and Prof. Jayanthi Palani (JP), Azeezia Dental College and Hospital, Kerala.

Prof. ST introduced the program and requested the audience to interact as the program was intended for the authors, reviewers and readers of JOMFP. She thanked the organizers of the convention for the opportunity. RT briefed the history of journal established by the parent association by the first Editor – Prof. Barbhande S and highlighted that in 2007, it switched to open-access mode under the leadership of Prof. SPS and obtained the indexing in databases during the editorship of Prof. Elizabeth Joshua, Chennai. He thanked all the past editors and the teams for their immense contribution, time invested in bringing the journal to this stature. Today, it stands indexed with Scopus, listed with PubMed/PubMed Central and in consideration for other indexing sources. He stressed the need to further increase the quality of the manuscripts – which can only be achieved by bringing in well-informed authors, reviewers and readers. Since the PGs are our future authors, reviewers and beneficiaries, it was conceived and executed during the PG convention.

Prof. ST began the interaction with the basic question of what is publication? And the need to publish articles? For which Prof. SPS replied that publication means to make it known to public. It is the process of printing or reproducing the written or typed draft after scrutiny. One needs to publish to share and exchange the knowledge, ideas and experiences. One can publish a rare case report, an original research or a review article. Today, as per DCI's stand, editorial or even letter to editor is considered as publication. Prof. SPS said that one needs to publish with creative and clarity of mind, keen sense of observation with good or a reasonable vocabulary. Prof. ST raised the issue of authorship and order of authors. Prof. SPS replied that whoever contributes to the research, in terms of conception of the idea, executing the work, interpretation of the results and preparing the manuscript, need to be the author.

Prof. ST raised the questions of the possible flaws that can happen while publishing? Prof. SPS replied that flaws may be in the content of the publication or in authorships. Content flaw may be first due to the quality research. If the research is not genuine, the publication cannot be genuine since it is the outcome of the research. Repeated research is considered to be a low-quality research. Manipulating the data, falsification of the results and violating the ethical guidelines are considered to be academic dishonesty or academic fraud. Ten years back a chemistry professor of Venkateswara University produced more than 50 scientific articles, which appeared in top-rated journals, without doing actual research. The equipment he mentioned in his study had never existed in his department. Another major problem is plagiarism. It is an intellectual theft that is stealing someone else idea, written or creative work and projecting it as their own. Expression of original ideas is considered as intellectual property and is protected by copyright laws. It is infringement of copyright when one uses someone else idea, creative work or information derived out of individual research, without permission

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or proper acknowledgment. Scientific misconduct occurs – when claiming someone else's work as your own; copying words or ideas from others without giving due credit; giving incorrect information about the source of a quotation or paraphrasing but copying the sentence structure of a source without giving credit. Prof. RT added that replication studies are useful, provided that they add newer dimensions to the existing knowledge and confirm the findings again and hence would add value to science.

Prof. ST asked about authorship manipulations. Prof. SPS replied that "author" for an article is the one who significantly contributes to the study and drafting the article. Having list of names of those who are not connected to the study or writing of the article is considered as unethical. The International Committee of Medical Journal Editors (ICMJE) has formulated criteria for authorship. Authorship misconduct may involve the order of authorships and inclusion or exclusion of the names. The most famous research and authorship misconduct was Woo Hwang-suk, a Korean professor belonged to Seoul Nation University, violated the ethical norms in his research and falsified results data, during his research on clone human embryonic stem cells. His articles were retracted from the journals. There were top-ranked researchers who lend their name to his article also blemish their reputation. Hence, when a person gives his name to a publication, he is accountable. Better not to seek authorship when there is no significant contribution either in research or in publication.

The discussion shifted to plagiarism. Prof. ST wanted Prof. SPS's opinion on unintentional plagiarism and punishment for the same. Prof. SPS replied that there is punishment. Many of the authors send the same article to two different journals, to reduce the waiting time. All journals seek an undertaking that the submitted article is not sent to other journal for consideration for publication. Many a time, this is overlooked. If the same article happened to appear in two different journals, it amounts to misconduct. However, some does willfully with minor alteration in the title. Another problem is reference quoting. We give so much of importance to the main part of the article, i.e., from introduction to discussion and conclusion and least bothered about the references. If we misquote the reference, i.e., the source from where the article is taken, can also amount to plagiarism. Hence, see to that the references quoted at the end of the article is accurate. Prof. RT added that at present, issues with plagiarism are often seen from moral angle. However, with changes in law currently in India, as in Western countries plagiarism in PhD and academic career-related publications, research publications out of grants come under the legal aspect and is punishable by law. The punishment ranges from reprimand to outright dismissal. Prof. RR added that the journal editors create a "blacklist" and "suspension" list for authors who indulge in scientific misconduct or plagiarism. Hence, in the immediate future, one needs to be aware of all these issues. He referred that the Institutional or Journal's Research Integrity Committee decision would have a say in such investigations. Prof. SPS advised the potential authors to screen for any possible intentional or unintentional scientific misconduct and also use professional and qualified web-based programs for voluntarily screening plagiarism in their final version of manuscripts.

The focus of the discussion then shifted to ethical part of research. Prof. RT replied that in India, the Indian Council of Medical Research (ICMR) 2017 guidelines are the basic reference guidelines along with Good Clinical Practice guidelines. Prof. SPS added that updated version of the Declaration of Helsinki formed the basis of such guidelines. Prof. RT added that as per the existing Indian law, any and every Institutional Ethical Research committee should be registered with the Indian Central Drugs Standard Control Organization (CDSCO) and even "exemption from review" of ethical committee should be given only by such a registered committee. He also added that all clinical trials should be endorsed by the ethical committee and sanctioned by the Director General of the CDSCO. The law amended in 2012 and notified in Indian Gazette clearly states that the methods to register the ethical committee, procedures, the formulation of the committee and the standard operating procedures are outlined again in the ICMR 2017 guidelines. Furthermore, Prof. RT highlighted the benefits of registering the research/trial with the Clinical Trial Registry of India (CTRI). Although voluntary many journals ask for the registration of research with CTRI. Any violation of the above can be constructed as an offense and a scientific misconduct. Prof. RT requested all to emphasize their institutions and departments to get their ethical review committees to get registered with the CDSCO. He elaborated the results of such nonregistration or delayed registrations. There was an active discussion in this regard, contributed by Prof. JP and Prof. RR, who highlighted with anecdotal experiences from their institutes.

Prof. ST invited Prof. RR, Director of Research, Manipal University, to talk on grants and fellowship. Prof. RR took the center stage to brief the audience about grants. He proceeded briefing the key elements that one need to understand before applying a research grant, which were as follows:

- Mandate: If the research question fulfills the mandate
- Eligibility: If the individual or the institution applying

for funding is eligible. The application process mostly has two components – (1) administrative/nontechnical and (2) academic/technical.

Prof. RR further briefed on each component – Administrative segment covers letter from the institution, Institutional Ethics Committee approval, bank details, institutional affiliation and quantum of funds required. Does the funding agency have a dedicated application form or if it is the expression of interest. It is also important to make note of the word limit, timeline, what the deadline is, if multiple people are participating in the application make sure they are all involved. What level of commitment wills the grants requires from the host institution. Quantum of money that comes with grant should not be too big for the proposal or too small to manage a grant. While the Technical component includes timeliness of the proposal. Whether the question is relevant, impact of the project and novelty element if any included. Research proposal itself has to be proofread for language by someone not directly related to the field, scientific content. Preliminary data are important. It compensates for not so strong publication profile. For a beginner, he recapitulated with quick points – (1) read the funding agency guidelines, (2) what does this grant support, how much funds can be requested, duration, etc., and (3) good to see what type of grants have previously been funded. Most agencies would have this information in the public domain.

Next Prof. RR spoke in length on the different types of funding opportunity announcements (FOAs). A FOA is a document that describes the purpose of the grant, what is being sought, etc. It is basically a vision document that lays out the conditions for the grant. In India, there are two categories – grants and fellowships. The former can have co-principal investigators (PIs) but the latter cannot. The former has no component for PI salary, the latter does. Most of the grants in India are of 3-year duration. Fellowships can vary from 1 or 2 years to 5 years. For international grants, this definition may change. Therefore, it is important to read materials carefully as there are huge number of DBT grants, sizeable number of DST and ICMR grants.

Prof. RR proceeded with elaborating on both the forms. Grants are funds awarded by the government, corporate, research organization, foundation, etc., to an individual for a prescribed period. When the grant is awarded to fund a research, it is usually centered around a particular research question and is generally PI driven. It empowers the individual to establish himself/herself as an independent researcher. There are grants which are open round the year or time bound. Grants are also awarded to institutions or group of individuals developing infrastructure, multidisciplinary research, clinical trials, vaccine development, etc. Grants could be intramural or extramural. Intramural is usually the seed money given to a young investigator to get the research rolling. Extramural grant is usually competitive awarded by the Government of India, State Government, not-for-profit funding agency, philanthropic contribution, etc.

Fellowships are short-learning opportunities that typically span from a few months to a few years. Academic research fellow, study fellowship, work fellowship and senior research fellowship are the more common types.

The next important step was deciding on the eligibility of the PI for a grant. Prof. RR reported that anybody who has the ability to frame a valid research question, clearly defined methodology to address those questions and be able to arrive at a solution/product or proving of a hypothesis can be a PI. It depends on the funding call or the scheme. Invariably, it is someone with a PHD or PG medical degree holder. Ideally, it is somebody who has aptitude for research with well-framed research questions or hypothesis. He/she has to have a strong research vision and right amount of independence to pursue the research question. He/she should have the ability to think through, frame questions, seek answers and steer research projects. He/she should have significant authoritative reviews in their respective fields. To be eligible to apply for grant, one will have to typically demonstrate that one has research experience, significant publications in the field, certain degree of research experience and have a lead a team of researcher/certain fellowships or grants by the ICMR or CSIR where PhD or PG requirement is not mandatory as in case of some early career level fellowship, where they are expected to work under the close mentorship.

In general, PI would be someone who has a permanent or semi-permanent (e.g., Ramalingaswami, Ramanujan or INSPIRE Fellow in India) position at a university/research institute. The term of appointment usually should be more than the term of the grant. Some agencies would only support people at not-for-profit institutions.

Prof. RR then proceeded to brief about the review process of a grant application. The process is entirely dependent on the grant and the funding agency. General route that is followed is first level of screening at the funding agency. It is generally an administrative check to ensure the completeness of application. This is followed by peer review (national or international) by those who are directly in the field who carry out in-depth evaluation of the technical aspects of the

proposal. Funding agency will put in a lot of time to identify the reviewers. In general, there would be a committee to collate and give feedback. Then, the applications are shortlisted for an interview before the grant of award. Short-listing committees and interview panel would be called for, which may be same or different. They may not be subject experts but in some ways will have sufficient experience in evaluating the proposal. Application has to be strong in terms of the administrative requirements, technical content in the second stage and third is the combination of technical competence and potential impact and outcome (deliverables and probability with which the project would be met with) and if it is a worthwhile investment to make. The committee will also assess if the project would yield returns in the form of knowledge generation, career advancements, publications and patents.

In general, the review of grant/fellowship varies widely. Some agencies depend on external peer review followed by assessment by a committee. Some use the grants committee for most of the review. In either case, people who review grants are not necessarily experts in that narrow area. They are people who are generally aware of the area and know the scientific method. It is, therefore, important to avoid jargon in the text and make it logical and simple. Everything, especially budget items, should be justified properly.

Then, Prof. RR talked on the dissatisfaction being the most common among unsuccessful applicants, with complaints about bias and wasted effort and proceeded to talk on the different method to deal effectively with such bias. According to his experience, most of the funding agencies ensure that there is no bias from the stage of application to award. It is, however, a common unavoidable problem. Most of the funding agencies address conflicts if any and ensure that the competition is fair. Funding agencies share review or feedback to work upon for future grants. As a lot of time and energy goes into submitting a proposal, it is natural that applicants are dissatisfied when unsuccessful. As with anything in life, there is an element of luck involved, and since there is human intervention, there is going to be some degree of bias. People should be cognizant of the fact that Nobel laureates have their projects declined.

As with regard to reviewers, there is a clearly laid out code of conduct for funding agency staff, the committee members and also for the peer reviewers. They will subscribe to set of rules to ensure confidentiality statement and issue a conflict of interest statement. It is the committee that makes the decision. Applicant has a right to ask for clarity in the even the decision is unsatisfactory.

To be precise, rejection happens, but decisions are mostly fair. There is also a tendency by applicants to cry foul if not successful. All good funding agencies provide detailed critique so even unsuccessful applicants get something back to improve in future and provision for good critiques. A reasonable PI learns from his experience, mistakes and takes corrective steps. Then, the discussion later centered on adequate sample size. Prof. AB added his views on sample size determination, methods used and potential pitfalls in this direction.

Prof. RR then briefed on the ways to learn in detail about developing a proposal and related procedures. He elaborated on the multiple resources available in the public domain. Most of the funding agencies host video modules. Some videos about grantsmanship, attending interviews and academic mentoring are hosted on Wellcome Trust DBT India Alliance website. Some examples include as follows:

1. https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/write-your-application.html
2. https://grants.nih.gov/grants/grant_tips.html
3. https://www.jhsph.edu/departments/international-health/news/Getting-an-NIHGrant.pdf.

Prof. RR then proceeded the importance of IRB, especially when human participants were involved. At the application stage, it may not be mandatory. However, it depends on the primary requirement of the funding agency. Some request at the time of submission and others before the start of funding. However, once the proposal is approved, one may not be able to start the project unless the proposal is IRB approved. To be precise, all funders require IRB approval for human subjects before the funds can start. Some may even require this at the time of submission.

Next, the panel discussion focus shifted to adhering to certain standard guidelines for framing the manuscript. Prof. JP elaborated that among the various study designs available for conducting research, randomized controlled trials represent the gold standard and provide the highest level of evidence in evaluating the health-care interventions. She said that assessment of a published clinical trial depends on the complete and transparent reporting of information on the methodology and findings of the study. She commented that many authors of the clinical trials fail to provide this important information. The lack of adequate reporting of scientific information has led to the formulation of guidelines for reporting clinical trials called as the Consolidated Standards of Reporting Trials (CONSORT) statement. The original CONSORT statement was formulated in 1996, which further underwent modifications in 2001 and 2010. The CONSORT 2010 statement includes

25-item checklists which provide guidance for reporting all randomized controlled trials. The complete statement along with the explanations for each checklist item is available on http://www.consort-statement.org. Currently, the CONSORT guidelines have been accepted by over 400 journals, and the ICMJE endorses this guideline. The premise of CONSORT statement has paved way for other checklists such as – the Standards for Reporting Observational Studies in Epidemiology guidelines for observational studies, the Preferred Reporting Items for Systematic Review and Meta-Analysis guidelines for systematic reviews and the Standards for Reporting Diagnostic studies guidelines for diagnostic tests. She informed that all the reporting guidelines in health research are available in the EQUATOR network database (http://www.equator-net-work.org). She proceeded to warn that these guidelines and checklists do not provide recommendations for designing and conducting the studies but helps to satisfy certain standard requirements that allow comparability across several studies. Adherence to the checklist items by the authors would enhance clarity and transparency of reporting. This would assist the authors in writing the scientific article, peer reviewers in reviewing the manuscript and the readers in critically appraising the published articles.

Then, Prof. ST invited Prof. AB to speak on the books and monographs as a tool of dissemination of research. Prof. AB highlighted the difference between monograph and a book. A monograph is a specialist book on a single topic/subject written by one author while a book – in a truest academic sense – is a detailed exploration of a particular subject. They can be a collection of papers penned by one author or several authors.

Prof. ST asked Prof. AB to elaborate on ways to publish a book. Prof. AB outlined the flow as – Choose a plan-Submit your book details to potential publisher– formulate the legal aspects-Sign agreement-Get ISBN code-Submit manuscript - Book composition done-Review the composed book-Get your printed copies-Book marketing done-Monitor sales and royalties. He elaborated on ISBN numbers. An ISBN is an International Standard Book Number. ISBNs were 10 digits in length up to the end of December 2006, but since January 1, 2007, they now always consist of 13 digits. An ISBN is used by publishers, booksellers and libraries for ordering, listing and stock control activities. An ISBN enables a specific publisher to identify a specific edition of a specific title and the specific format used for that particular book.

Prof. ST, Editor-in-chief of the *Journal of Oral and Maxillofacial Pathology*, summed up the entire proceeding of the panel discussion on important aspects – publishing ethics, research ethics, grants and fellowships, using standardized checklists and the reach of books and monographs as tools of research publications. She expressed the hope that the next and current generation of authors, reviewers and readers will be well informed on these spheres which could increase the quality of scientific manuscripts in JOMFP too, eventually in longer run. She thanked the editorial board of the journal, panelists and the organizers for making the panel discussion possible.

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Conflicts of interest

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