

## Research: Beyond promotions, indexing agencies and impact factors!

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Many researchers are tempted to publish their research in supposedly “predator” journals. It is definitely not their first choice! Still they do it for the very reason that somehow they want to publish their research. The question is, whether it is really possible to publish your honest research in the present scenario? In this editorial I am attempting to point out some hurdles in scientific publication and possible solutions.

Before I elaborate on that, let's understand the definition of research. The Oxford dictionary defines research as “the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions”. Epistemology is the basis of all learning and research. It is a science of study of : a) Nature of human knowledge, b) Sources of human knowledge, c) Methods of acquiring knowledge and d) Limitations of human knowledge. The general meaning of research is the search for knowledge. The word is derived from a French word “Recherche” which means “to search” [1]. In reality research can be equated to the journey of finding the truth!

The legitimate and logical end of any research is to get it published in a journal through which it will be available in public domain. It is quite natural to expect that the research findings obtained by studying subjects from society and also by spending money from public exchequer should be returned back to the society. The findings may or may not suit the researcher or sponsors but it must be available to other researchers and people who may use it for research, policy making or providing service.

Every researcher wants that his/her research should be definitely published! Of course I am not writing here about the researchers who indulge into fabrication or falsification of data. This number is quite alarming! In a meta-analysis of Fanelli D it was found that a pooled weighted average of 1.97% of scientists admitted to have fabricated, falsified or modified data or results at least once –a serious form of misconduct by any standard– and up to 33.7% admitted other questionable research practices. In surveys asking about the behaviour of colleagues, admission rates were 14.12% for falsification, and up to 72% for other questionable research practices [2].

Let me elaborate on the hurdles in scientific publication:

- a) Peer reviews: It is a great idea that every research should go through a peer review. Depending on the research article and its scope it will be sent to experts in that field. If your article is about diabetes, it will be sent to diabetologists. The issue here is most of them if not all, are bound by certain guidelines and resultant biases about what can happen and what cannot in diabetes due to any medicine or any lifestyle! In such scenario do you think any research that challenges or contradicts established guidelines will be approved by them? It is worth noting that unprofessional peer reviews can actually harm the researchers. In a study conducted by Silbiger NJ and Stubler AD it was found that survey respondents across four intersecting categories of gender and

race/ethnicity received unprofessional peer review comments equally. However, traditionally underrepresented groups in STEM (Science, technology, engineering and mathematics) fields were most likely to perceive negative impacts on scientific aptitude, productivity, and career advancement after receiving an unprofessional peer review. Authors conclude that unprofessional reviews likely have and will continue to perpetuate the gap in STEM fields for traditionally underrepresented groups in the sciences [3]. I do not think this will be any different in medical field.

- b) *Exuberant article processing fees*: It is seen that most of the journals with impact factor more than 10 have article processing fees above 2000 US dollars. This is a huge amount of Rs.1.50 lakhs or more. The range is from 400 US dollars to 9000 US dollars. For individual researcher or a group of researchers from any medical college department of India, where there is hardly any institutional support for research, this amount is too much. Naturally research that is sponsored by international agencies or pharmaceuticals will have better chance to get published. Unfortunately both of these have their mandates and agenda. As a result it becomes difficult for good quality research to get published which does not have such support. In one of the article finding out the relationship between eating occasions and fasting insulin levels which got published in a journal charging handsome article processing fees, the most important determinant of fasting insulin level, the fasting period was not considered! In another article baseline findings of an intervention project were presented with wrong study design! This research was supported by international agency.
- c) *The mirage of impact factor, various scores and indexing agencies*: Impact factor though considered as sacred cow, has many limitations. The impact factor (IF) is frequently used as an indicator of the importance of a journal to its field. It was first introduced by Eugene Garfield, the founder of the Institute for Scientific Information [4]. A few good quality articles in a journal getting hundreds of citations and most articles

getting minimum citations can result in a journal with great impact factor! It is not uncommon to see that many articles published in non-PUBMED indexed journals are cited by articles in PUBMED indexed journals. Hence completely disregarding articles published in journals with low impact factors can be harmful for the process of research. It will be evident by this statement “In an ideal world, evaluators would read each article and make personal judgments,” by Eugene Garfield [4].

The monopoly of indexing agencies, promoted by apical agencies of the country, forces researchers to submit articles to specific journals indexed there and pay exuberant fees. It is also common to see mushrooming of journals that get indexed in a particular indexing agency. In some obscure manner apical agencies reject one indexing agency and accept the other without giving any valid reasons for the same. All of these make the future of research publication uncertain.

What can be done to improve this situation?

There are many possibilities and solutions.

- 1) *Delinking publications from academic promotions and privileges*: First of all let us understand that conducting research is more important than publishing research! The academic promotions and other privileges for scientists should be on the basis of research conducted and not on publication. This will relieve pressure of publishing and the resultant predator journals and their exploitation.
- 2) *Peer reviews can become more professional and transparent* if after the review process and communicating results to the author, the reviewer's comments are posted on journal website with name of the reviewer. It will make the reviewers more responsible and accountable for their reviews. It should be also considered to include reviewers from biostatistics, research methodology, basic sciences, sociology and even learned non-medical person in the peer review team. The same way as it happens in the constitution of

Institutional Ethics Committee. The author should have the right to publicly respond (on the website) to the comments provided by reviewers. There can be even a grievance redressal mechanism to sort out conflicting issues.

- 3) The business of academic publishing is very lucrative. Most of the times the reviewers are unpaid, the journal is published only online and still the article processing fees is in hundreds of dollars! We need to have some regulations on these journals and related stakeholders. Reasonable fees can be decided by national government and academic institutions. It is also possible to have concessional rates for developing countries. However they should not be forced to apply for waiver! The concession should be a right than any favour. Government should support research by providing sponsorship for publication.
- 4) Journals publishing research articles rejected by reputed journals: It is possible to start journals that can publish such rejected articles. Such publication should include the comments of reviewers from journal which rejected it along with the explanation provided by the researcher. Let the reader decide for himself. In addition to journals like this we can even think of a national repository of rejected articles.
- 5) Getting rid of compulsory impact factors and indexing agencies: Let the research speak for itself. In the present era most of the research is driven by funding. You will find disproportionate number of research articles on issues least important for our country compared to important issues. That reminds me of a story of Mulla Nasuriddin. Mulla was found searching something in the night below the lamp post. People asked Mulla what he was searching for. "The golden ring" Mulla replied. "Where did you lose it?" they asked. "In the field", Mulla replied. "You lost ring in the field, then why are you searching it below this lamp post?", they asked with a surprise.

Mulla replied, "because there is light here!" This is the story of most research conducted.

- 6) Creating atmosphere for research: in the present era of slogans of self reliance, let us be self driven and self sufficient in research too. At national level let us identify our priorities of research and support such activities ourselves through government or corporate sector of the country. Rather than international agencies promoting their research agenda and our scientists falling prey to that, let us invite them to fund research projects of our priority. Else let us reject their funding! I know this is too much of an expectation but at least we can start walking on this way to reach our goal one day.
- 7) Publishing reports of research by individuals and institutions: In the present era it is not very difficult to publish your research article as a pdf shared through social media or websites. Even institutes can publish their annual reports including research conducted by their researchers as a soft copy and distributed through their website or social media.

I am sure all these efforts shall free the researcher from the slavery of specific indexing agency, specific impact factor, article processing fees and undue pressure of publishing thereby making him more creative, innovative and confident of addressing national research priorities.

I know a young researcher, teacher from my subject who has around 200 research publications, of which more than 100 are in sacred PUBMED indexed journals. I congratulated him for this success and asked, "What is your contribution to the subject?" I was surprised when he asked, "What is that?" I did not say anything but wrote this article! Let us not lose the forest for a tree!!

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