

Insights from a Personal Journey in field of Orthopaedic Research and Publications



I am exposed and actively involved in the field of Orthopaedic Research since last eight years. Possibly this is the time frame when we go beyond the technicalities of the subject and enter the domain where we can philosophise about the subject itself. A time period when one crosses beyond the early enthusiasm and starts to understand and realise the stark realities of the subject one has invested for long and also probably start to deeply question the relevance of what one is doing.

When I began my Journey in the field of Orthopaedic research, like any other student of science, it felt as if I will be entering the sacrosanct of Science on which my subject is based on. As a wide eyed enthusiast I spend lot of time learning this new area [we hardly had any research training in our clinical curriculum]. The time I spend in Korea was immensely helpful to me and I thank my colleagues and my mentors there. Slowly I learned to write and read scientific articles and make sense of it. Learning and understanding statistical part was a bit of challenge but came with years of practice. I designed and conducted studies and started publishing in top journals of Orthopaedics. The first publication gave me immense satisfaction which was followed by many more in significant Journals. Now when I look back, I try to question these very publications and their relevance. Probably in the path of research and publication, the exact point why research is needed and is necessary is been overlooked (or even completely missed).

Recently I was talking to a third year post graduate resident who spoke about his paper being accepted in a Journal. I congratulated him and inquired about his study. It was poorly designed study and had just 9 patients in an arm of the study [of a fairly common fracture]. I found the journal on the net and as suspected, it was one of those 'Predatory Journals' [1]. This term has been doing rounds for some time now and identifies journals that do not have any formal academic infrastructure and peer review. They publish anything that is being submitted and charge a handsome authors fees for publications. More importantly these journals can go off line and vanish altogether one fine day with all data lost. Ethics of such journals is really questionable and lot of such publishers have come under scrutiny for the same. Yet will the practice to submit to these Journal halt? And who will tell the unsuspecting young authors?

The other matter was of relevance of publications. When inquired to a group of surgeons, the most important answer that I received was that publications can help in getting promotions and fellowships. Although this conflicted greatly with my belief in research which I felt was done to enrich the subject so we can provide better treatment and care to our patients [2]. Possibly that is what the ground reality is and research and publications are just tool to achieve a goal. If we pick up an issue of a Journal today, so many of the articles are completely beyond the paradigm of being clinically relevant. A lot of articles are just repetitions of earlier data mining exercises (not that they are wrong, but surely they are a lot irrelevant). This if seen in light of findings of Dr Ioannidis and his team, appears to a very depressing situations. For those who do not know Prof Ioannidis, they should definitely read his article titled 'Why Most Published Research Findings Are False' [3] which was published around 10 years back. He is termed as a 'Meta-researcher' where most of his work is related to studying the 'Credibility' of medical research. He and his team have published quite a few papers and have concluded again and again that most of the time biomedical research is "misleading, exaggerated, and often flat-out wrong". On the same lines I found a study published in 2007 titled 'When Should Potentially False Research Findings Be Considered Acceptable?' [4]. An there we start wondering about what is happening in biomedical research? There is one group concluding that most results are false /biased while the other group is trying to justify the false results and trying to make it palatable to the readers. Where is the Science and logic this? As if this wasn't enough, we are constantly struck with the 'truth stamp' of evidence based medicine which will try to label anything and everything that follows the rules as the truth, irrespective of its relevance and flaws. And what about the intrusion of Industry and conflict of interest that mark as red flags all over the landscape of medical research and publications. Then there are issues with publications bias which has been the hidden bias affecting the literature for a long time. Amongst these major issues there are unethical practices like plagiarism (which is well detailed by Dr Poduval in his guest Editorial in this issue [5]), ghost writing, selective statistics, data mining, over interpretation and sensationalise the data or the study. Just when I feel I have reached the bottom of the vices in the field of medical research, a realisation dawns that most of the readers of

these publications are completely an unsuspecting audience. They do not have expertise in understanding the statistical methods or the technicalities of research methodology. Moreover currently the volume of articles added to literature every day, makes it practically impossible for anyone to read and interpret and critically appraise every article. Thus on one hand we have researcher and studies that are most time at flawed and on the other hand we have an audience that is inept in noticing these flaw. Where does this lead us when we try to define the relevance of research and publication? Rather than serving the goal of enriching the subject and helping to improve patient care, most papers that are currently published just add to an already huge volume of irrelevant literature.

I do not have a clear idea of where the field of orthopaedic research is heading, but I know where it should head: Towards improving patient care. And if we wish to take literature toward this goal we will have to focus more on clinically relevant articles which would be helpful to readers in their daily clinical practise and will also be easy to understand and read. We also need to train the next generation of clinicians and researcher to understand clearly why research and publication in needed. They need to start finding the edge of curiosity and hunger to answer clinical and relevant questions. Also the technicalities of the statistical framework of research should be eased out (if not completely removed) or all of should be well educated in them. We started with goal of eliminating personal bias by using objectivity and statistical framework and in turn have moved away from practical and real life framework. How this will be done is something we all should think about. Do write to me if you have any suggestions.

I hope the scenario of biomedical research will improve but first we should identify and acknowledge our flaws.

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