

Perspective on Orthopaedic Research and Publication in India

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Medical Research can be broadly divided into two, clinical research and academic research. Clinical research includes studies that are directly or indirectly funded/conducted by the pharmaceutical companies or the industry. The academic research pertains to research done by surgeons/clinicians at universities, institutes or at individual level. Academic Research and publication are the main source of enriching the medical subjects. This is especially true for surgical subjects like orthopaedics where industry sponsored studies may tend to be biased towards their specific products. Textbooks and reviews are synthesis of these academic research studies that are published in peer reviewed Journals. This knowledge base is in constant state of flux with new information adding to or overwriting the old concepts and principles. This requires constant addition of new academic studies to literature and thus the need to support and conduct such research.

There is a huge need to promote academic orthopaedic research in India. India as a country, has orthopaedic challenges that are specific to its population. We see cases of osteomyelitis, infections like tuberculosis, delayed fracture presentations and revision cases that are not seen in the western world. The world literature is sparse on these diseases and we can't rely on it to provide us guidelines to manage these cases. The socio-economic and cultural views of our patients also vary a lot and many a times we have to come up with innovative plans to face the challenges of individual patients. The best way would be for us will be to publish our data and make it available for systematic reviews and create our own body of literature that will provide relevant guidelines for our own problems [1]. If every surgeon from India publishes his or her orthopaedic knowledge to a common pool, we would be able to draw patient specific conclusions from this pool of knowledge. We can learn from experiences of our colleagues and will be better equipped to provide optimal treatment to our patients. Although this dream will take long time, infrastructure planning and a huge dedicated network, we believe the process has already begun. Journal of Clinical Orthopaedics is a glowing example of such an initiative from the oldest and one of the most academically strong orthopaedic body in the country.

Academic orthopaedic research in India is surely improving but at a very slow pace. There are many reasons for this 'research apathy' but the main reasons are lack of training in principles of research and publication, lack of support and guidance and lack of platforms to present and publish. The authors should realise that research should be focussed on patients needs and core principles of research methodology have to be followed. Every publications should exhibit high clinical quality and ethical standards. In orthopaedics, most of the areas have shades of grey as far as decision making is concerned. The available options vary from conservative to surgical methods but every option has its own place with its own set of indications and contraindications. The main aim of orthopaedic research is to specify and refine these indications, contraindications, advantages, disadvantages, limitations and complications of these treatment options. This can only be achieved when we are able to collect and collate our data, interpret it scientifically, subject it to peer review and publish it. A high standard of ethics and publication has to be maintained but this is easier said than done. Although this may not be true for most published article, many articles that are published today are simply for the sake of publication. There are lot of poor conducted studies and poorly written articles that are published. Plagiarism is a special issue that needs spread of more awareness and understanding among the authors [2,3]. One of the causes of recent increase in these malpractices is the Medical Council of India (MCI) directive where publications are made necessary for promotions and appointments in medical colleges. The

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MCI had laid down the rule with good intention of promoting research and publication, but there was no training and infrastructure provided for research. Surgeons were simply expected to produce papers when they haven't conducted a single project in years except probably participate in thesis of their students. This not only led to increase in unethical practices and publication of poor articles but also led to growth of predatory Journals that promised rapid publication for a fees [4]. Other issues like peer review frauds, duplicate publications, salami slicing and ghost authorships are also on rise in recent years. A clear picture of these can be obtained from the websites like 'retraction watch' [5] and other such sentinel websites. The solution for these issues is urgent dissemination of information regarding adverse effects of such malpractices and also education about correct and ethical practices. Journals like Journal of Clinical Orthopaedics can play a very important role in changing this scenario. Reviews and articles based on research methodology and publications will help in spreading the correct information. Also the academic weight and stature of Bombay Orthopaedic Society will definitely increase the impact of these articles manifold. We believe this situation will change with focussed efforts and with the new breed of clinician scientists showing interest in academic research the future looks much brighter. In addition there are more opportunities arising due to change in policies of academic bodies, who are now offering assistance for research and publications.

In developed countries, academic research is done through co-operation of three entities namely the universities, government and the industry. Although this co-operation still does not exist in India (as far as orthopaedics is concerned), there has been increased recognition for academic research by the government and universities. Academic bodies like Bombay Orthopaedic Society (BOS), Indian Orthopaedic Association, Indian Orthopaedic Research Group (IORG) etc are showing great interest in this area. There are number of research methodology courses and workshops held in the country to train the surgeons in the art of research and publications. Many of these organisations also provide funds and resources for academic research projects. IORG has started many clinician initiated speciality journals including the popular Journal of Orthopaedic Case Reports [6]. Recent launch of projects like 'Trauma Registry' will help in creating a network of Academic Surgeons coming together to do research that will have great impact. BOS has its own ongoing research projects and most noted of them is the project on tuberculosis which will definitely have path breaking impact. The BOS journal, 'Journal of Clinical Orthopaedics' (JCORTH) will provide platform for many Indian surgeons to publish their work. It is also a great step in initiating postgraduate students and trainees in the habit of reading and publishing. The outreach of JCORTH would be exceptional and it will definitely contribute immensely in improving the research and publication scenario in the country.

The future of Orthopaedic research and publication looks promising but there is definitely a need for improved awareness and education and also need for platforms to publish and present the research. We have to remain cautious and careful about the malpractices and aim to maintain high standard of ethics in our research and publications

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