Balancing research and clinical practice

Hippocrates, around 2500 years back, was treating clubfoot deformities by molding the feet similar to the modern day treatment. Subsequently, a number of techniques including correction with a metallic wrench, Kite’s technique of plastering, and Turco’s posteromedial surgical release were tried. Although the first report of the Ponseti technique, which evolved in the 1940s, was published in 1963, the technique was not widely accepted for approximately three decades till the comparative studies proved its superiority over the traditional methods. When a physician performs an intervention in a patient with a baseline medical problem, there is either a good, an equivocal, or a bad outcome. The observation of this relationship of the intervention with the type of outcome becomes a research which is useful for the treatment of future patients. Thus, the research is a spontaneous and inseparable outcome in the treatment of every patient, which needs to be observed, compiled, and disseminated for the better treatment of future patients.

In the present times, however, the individual physician has become hard pressed for time due to the advancements in research methodology in terms of designing trials of higher hierarchy and simultaneously the need for delivering high-end clinical results due to higher expectations of the patients. However, there is a silver lining that if we incorporate research tools such as functional/quality of life/patient outcome scores in our routine clinical practice, and start following the clinical practice guidelines, there is a scope of enhancing the quality of medical care as well as producing a relatively more standardized and quality research. Furthermore, the pressure of consumerism has coerced the physician to take a better informed consent and keep a meticulous treatment record of the patients, which are useful components of a good research.

We know that the aims of clinical care and research, being for betterment of the patient at hand and the betterment of the patient in future, respectively, are closely related. This dual role, however, if tilted to either side, can disturb the delicate balance between the former and the latter. For example, a physician researcher, if uses a medical/surgical intervention to generate the evidence in favor/against a hypothesis, well aware of the fact that the intervention is either useless or even harmful to the patients, is disturbing the delicate balance. I call him/her a perverted researcher. The famous Tuskegee study, wherein the syphilis patients were not prescribed antibiotics just for the sake of studying the natural history of the disease, is a glaring example of the perverted research. The other examples of unbalanced researchers include artificially skewing the results toward a particular arm of treatment due to various conflicts of interests and adding the zeros to the data to enhance the power of the study.

Due to the glaring examples of imbalance, the models of separate clinical care and research are being modified to an integrated clinical care and research, and the proposed solutions for achieving a balance between the two include clinical equipoise from the physician’s as well as patient’s viewpoint and the therapeutic-orientated randomized controlled trials (RCTs). The research-oriented informed consent has been changed to patient-oriented informed consent. For example, the procedures of ankle arthrodesis and ankle arthroplasty are likely to give equal level of immediate pain relief to a patient suffering from severely degenerated ankle joint. However, the benefits of lifelong survival and the lower cost of arthrodesis also need to be informed to the patient before enrolling him/her into either of the arms. Hence, if the impact of the two or more equally efficacious treatments on the patients’ lives is different in any manner, this should be known to the patient. Furthermore, the patient should have complete information about the potential of beneficence/equivocalness/maleficence of each arm of treatment in a clear and transparent manner before he/she decides to be a participant in the treatment/research. For example, in the absence of a proven role of stem cells for the treatment of spinal cord injury, the patient needs to be informed that the role of stem cells is still unknown, rather than motivating the patient by informing him/her that in the absence of any other existing treatment, the stem cells is the only hope.

We must remember that all the great clinicians including Charnley and Ponseti were busy and probably busier than majority of us. Had they confined themselves to the clinical work only, the present-day treatment of the painful degenerated hip and the clubfoot, respectively, would not have been possible. Thus, the research is a moral obligation for all the practicing clinicians so that the interest of the patients at hand as well as the future patients is taken care of well.
To keep a perfect balance between the clinical practice and research, it is proposed that the busy physicians should develop separate specialized teams for providing high-end clinical care as well as conducting quality research, wherein he/she plays the role of a leader to supervise and guide them. It is also true that all the clinicians do not have aptitude for conducting the RCTs; nevertheless, the observations of the individual cases as case reports or case series, though occupy lower ranks in the hierarchy of evidence, provide the first line of evidence, from where the research questions emerge for designing the RCTs.\(^7\)\(^{-10}\)

Since our foremost aim, as physicians, is to safeguard the patients’ interests, and the patients neither want to be treated by a perverted researcher, nor do they want to lose the advantage of newer scientific discoveries in the hands of a monomaniac physician, it is our professional obligation to keep an optimum balance between clinical care and research.

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Planned forthcoming symposiums in IJO

IJO has planned symposiums on following topics in forthcoming issues.

- Mini Hip Symposium
- Sports Injury
- Musculoskeletal Oncology