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Building Local Evidence: The Right Design for the Right Question



In the March issue, I emphasized that evidence is only as relevant as the context in which it is generated. Building that local evidence, however, raises a further question: how should such work be designed and judged?

During training, we learned to rank studies by their place on the evidence pyramid and to regard anything below a randomized controlled trial as somehow second-rate. Levels of evidence are a useful shorthand, but they are not a scorecard. A randomized trial is the best design for comparing two treatments. It is the wrong one for describing a rare injury, testing whether a new technique is feasible, or measuring muscle activity under different conditions. The better question to ask of any study is whether its design fits its question, given the patients, resources, and timeframe available.

This issue illustrates the point well. Its articles range from comparative studies of injection therapies for knee osteoarthritis and post-chikungunya arthralgia to an electromyographic study of shoulder immobilization in Filipinos, an early-outcome cohort of Ponseti treatment for clubfoot, a prospective series on a new Achilles tendon repair technique, and a case report of distal biceps reconstruction. Each design suits its purpose. A case report is the appropriate way to share a salvage reconstruction for a rare chronic injury. A small series is a sensible first step for a new technique. A physiologic study answers a mechanistic question that no outcome trial could, while comparative designs, including quasi-randomized ones, are the right choice when the question is which treatment works better.

The design that fits a question also defines the limits of its answer. A series of five patients can show that a technique is feasible, but not that it is superior. Early clubfoot outcomes are encouraging, but relapse reveals itself only over years of bracing and growth. Allocation by alternation or record number is more open to selection bias than concealed randomization. Stating these limits is not a weakness of a study. It is what makes the study trustworthy and useful.

For authors, this means beginning with what we need to know and choosing the design that answers it best within our constraints. Authors should get used to reporting using established guidelines such as CONSORT for trials,[1] STROBE for observational studies,[2] CARE for case reports,[3] and the IDEAL framework for surgical innovation.[4] Our conclusions should go only as far as the design allows.

Building local evidence is a collective and cumulative effort. Each well-designed and transparently reported study, whatever its level, lays a foundation on which the next can stand. Sustaining the Philippine Journal of Orthopaedics as a home for this work ensures that the questions arising from our own practice are answered in ways that remain relevant to the Filipino patients we serve.

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