Clinical Contributions to the Available Sources of Evidence (CASE) Reports: Executive Summary

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The Case Study and Its Maligned Account

Evidence-based practice (EBP) is the integration of the best available research, clinical expertise, and a patient’s values when making clinical decisions.1 The central principle of EBP is that each patient is unique, and decisions for the patient’s care must be made at the individual, “n-of-1”, level.2,3 As more evidence is presented to the clinician each year, whether that evidence actually results in enhanced outcomes for a patient with his or her unique values and preferences is unknown.2

Traditionally, clinical case studies have served as a forum for clinicians to communicate unique findings and experiences when diagnosing or managing a condition. In the realm of EBP, the value of case studies is controversial: they simultaneously sit low on the levels of clinical evidence hierarchy (as anecdotal evidence) but also atop the evidence hierarchy as the hallmark of EBP, the n of 1 study, in which an investigated medical process (e.g., diagnosis, prognosis, therapy, harm) is tested systematically in a “real patient.”3

Despite concerns about the internal and external validity of case studies with regard to the inherent biases introduced by only one patient or a few patients, case studies serve as educational narratives for the development of new insights in clinical practice, education, and research. Furthermore, case studies offer an excellent opportunity for clinicians to engage in scholarly activity and contribute to their profession’s body of knowledge.3–5 Although case studies have historically been the primary mode of disseminating clinical information, fewer outlets for case studies are currently available, and many journal editorial boards are questioning the value and influence case studies have in furthering research and clinical practice.3 Additionally, the lack of consistent reporting standards for case studies across journals makes it more difficult to assess their value.6 The intention of the case study is noble (i.e., sharing relevant reports of practice-based evidence [PBE]4), but its clinical utility as a source for EBP is unclear.

In the past 20 years, systematic reviews and meta-analyses of the sports health care literature have been conducted to answer clinical questions related to a vast array of injury conditions and management strategies. Well-controlled clinical trials across the five major categories of evidence (observational, diagnostic, prognostic, etiologic, and therapeutic) offer the most unbiased results from individual studies. The next logical step in clinical research is to test the effectiveness and feasibility of the results from these high-level studies. Case studies offer a unique medium in which the results garnered from these sources of external evidence4 can be implemented. The sports medicine
body of knowledge can be substantially enhanced through the reporting of clinical outcomes generated by evidence-based clinical decisions.

We have the opportunity to enhance the value of case studies by not only introducing what might be novel PBE but also confirming or refining our EBP. Therefore, case studies offer both an entry point into the development of clinical evidence and an endpoint of the implementation of evidence for enhancing clinical decisions and outcomes. The vision behind this case-study paradigm shift is to provide a robust outlet for practicing clinicians to make meaningful contributions to the Available Sources of Evidence (CASE) by reporting insights gleaned from using internal and external evidence for clinical decision making. It is from this perspective that we introduce the new Clinical CASE Reports paradigm.

A Unique Contribution

Case studies have traditionally been forums for describing the novel, the innovative, or the curiously unexpected clinical experiences, usually focused on diagnosis. Uniqueness is key to the traditional case-study model. One of the major challenges for case-study authors is determining what constitutes a unique contribution to the body of knowledge. In the broader medical literature, case studies provide a medium for describing new conditions, their potential etiologic factors, prognostic timelines, and potentially advantageous therapeutic strategies. To improve the case study, we must focus closely on how we define uniqueness in the context of EBP. Within the new paradigm, we propose a standardized method of determining the expectation of uniqueness, which would also assist in establishing the strength and importance of the evidence generated within the Clinical CASE Report. We have defined unique to describe the atypical presentation of key features (as previously presented in the literature) associated with the case. The uniqueness of the Clinical CASE Report is then no longer tethered to an extremely rare event or a unique set of circumstances seldom seen before, but can now be connected to the evidence-based decisions we make to enhance patient outcomes.

Beyond Diagnosis

Case studies are a critical link between the best available research evidence and clinical practice. Diagnosis should not be the only focus. However, along with the uniqueness factor, this is a common oversight in the traditional case study model. Far too much significance is typically placed on the unusual diagnosis, almost to the exclusion of other sources of clinical evidence. Indeed, all sources of external evidence (observational, diagnostic, prognostic, etiologic, therapeutic, etc.) can be used in the new Clinical CASE Report paradigm. Each source of external evidence has key features with information that is critical to highlight regarding the clinical decisions we make and the outcomes that ensue. Further, clinical communication is enhanced when we go beyond the unusual diagnosis. Under this new Clinical CASE Report model, clear avenues encourage the reporting of all aspects of clinical practice.

Clinical CASE Reports: A New Paradigm

Within the new paradigm, we propose two major classifications of Clinical CASE Reports: validation and exploration.

Validation CASE reports describe clinical decision outcomes that were guided by the best available research evidence. This contribution is based on contrasting the results of meta-analyses, systematic reviews, high-level individual studies, position statements, and clinical practice guidelines with the results of a clinical event in which the external evidence was used to guide clinical decisions. Evidence from validation studies truly embodies the spirit of evidence-based clinical decisions, basing them on EBP as these reports are the documentation of practicing clinicians guided by the best available external evidence.

In contrast, exploration CASE reports describe clinical decision outcomes that were based predominantly on internal evidence (individual clinical experience within the professional body of knowledge). Because this evidence is generated directly from clinical experiences and professional preparation, these reports exemplify PBE. When valued, both EBP and PBE contribute to greater understanding and a richer evidence-based body of knowledge, and perhaps, more importantly, help to close the ever-widening gap between the clinic and the research laboratory.

By reporting the results of implementing the best available external evidence with validation CASE reports, we can determine which evidence should be readily incorporated into professional education and preparation and truly close the circle of EBP. In turn, exploration CASE reports highlight the value of internal evidence.