Neurosurgical Practice Guidelines Quality

Although initially lagging, the publication of neurosurgical guidelines has recently increased at a rate comparable with that of other specialties. However, the quality of the evidence cited consists of a relatively low number of high-quality studies from which guidelines are created. Wider implications of this must be considered when defining and measuring the quality of clinical performance in neurosurgery [1)].

The American Association of Neurological Surgeons/ Congress of Neurological Surgeons (AANS/CNS) Guidelines Committee has done much to contribute to the quality of the guidelines produced by ensuring adherence to a rigorous evidence-based methodology and review by a multidisciplinary panel of clinical stakeholders [2)].

Clinical prediction and decision rules use evidence based medicine to assist clinicians in diagnosing and treating illness. Although widespread in modern medical practice, there are relatively few clinical rules for neurosurgical conditions. Stein et al. reviews the background of how clinical prediction and decision rules are derived, validated, evaluated, and used in practice. It also summarizes a list of clinical rules published for neurosurgical illnesses and analyzes each rule for how it was derived and whether it was validated and/or evaluated compared with similar rules. It reports on whether the implementation of each rule was studied and grades the overall quality of each report [3)].

Neurological surgery practice is based on the science of balancing probabilities. A variety of clinical guidance documents have influenced how we collectively practice our art since the early 20th century. The quality of the science within these guidelines varies widely, as does their utility in positively shaping our practice.

The Clinical Guidance document is an extensive and comprehensive reference aimed at clinicians and other practitioners across a range of clinical settings. It provides detailed information and guidance on the acute and chronic harms of a range of club drugs and NPS and their management.

The guidelines development process in neurological surgery has evolved significantly since the 1990s. Historically based on expert opinion, as a specialty, we have increasingly relied on objective medical evidence to guide our clinical practice.

Shank et al. assessed the changing practice guidelines development process and the impact of scientifically robust guidelines on patient care. The evolution of the guidelines development process in neurological surgery was chronicled. Several subspecialty guidelines were extracted and reviewed in detail. Their impact on practice patterns was evaluated. The importance of evidence-based research and practice guidelines development was discussed. Evidence-based practice guidelines serve to chronicle multiple acceptable treatment options and help us move towards more standardized care for specific disease processes. They help refute false “standards of care.” Guidelines-based care supported by solid medical evidence has the potential to streamline patient care and improve patient outcomes. The guidelines development process identifies areas, issues, and strategies for which little medical evidence exists, as well as topics that need focused scientific investigation and future study. The production of evidence-based practice recommendations is a vital part of furthering our specialty. Guidelines development advances our science, augments the resident

education process, and protects our practice from undue external influence [4].

In the last 20 yr, the rate of neurosurgical guideline publication has increased. However, despite the higher volume and increasing emphasis on quality, there remain no reliable means of measuring the overall impact of clinical practice guidelines (CPGs).

To utilize citation analysis to evaluate the dispersion of neurosurgical CPGs.

A list of neurosurgical guidelines were compiled by performing electronic searches using the Scopus (Elsevier, Amsterdam, Netherlands) and National Guideline Clearinghouse databases. The Scopus database was queried to obtain current publication and citation data for all included documents and categorized based upon recognized neurosurgical specialties. The h-index, R-index, h2-index, i10-index, and dissemination index (D-Index) were manually calculated for each subspecialty.

After applying screening criteria the search yielded 372 neurosurgical CPGs, which were included for bibliometric analysis. The overall calculated h-index for neurosurgery was 56. When broken down by subspecialty trauma/critical care had the highest value at 35, followed by the spine and peripheral nerve at 30, cerebrovascular at 28, tumor at 16, pediatrics at 14, miscellaneous at 11, and functional/stereotactic/pain at 6. Cerebrovascular neurosurgery was noted to have the highest D-Index at 3.4.

A comprehensive framework is useful for guideline impact analysis. Bibliometric data provides a novel and adequate means of evaluating the successful dissemination of neurosurgical guidelines. There remains a paucity of data regarding the implementation and clinical outcomes of individual guidelines [5].

1)
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