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# Trends of Neurosurgical Publications in High-Impact Medical Journals: A Bibliometric Study

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## Abstract

**Background:** The subspecialized, clinically-complex nature of neurosurgery should not result in marginalization or under-representation of neurosurgical scientific output. This study aims to provide an overview of the trends of neurosurgical publications in high-impact medical journals during the past three decades.

**Methods:** An electronic database search was performed to identify all articles affiliated with neurosurgery departments published in 10 highly regarded medical journals. The trend of the proportion of neurosurgical publications to total publications in these journals was examined over time. Subgroup analyses based on location, setting, domain, grant source and topic of the articles were performed.

**Results:** Overall, 2,090 neurosurgical publications were identified in the selected journals, comprising 0.26% of those journals' publications. The proportion of neurosurgical publications to total publications in these journals increased over time, from 0.03% before 1991 to 0.35% after 2020. Most studies were single-center (82.7%), clinical (52.4%), and primary research (89%). The United States (40.1%), China (12.4%) and the UK (7.1%) had the highest number of neurosurgical publications among those analyzed. The share of clinical neurosurgical articles increased over time compared to basic and translational articles ( $p=0.01$ ). Among neurosurgical subspecialties, neuro-oncology (60.1%), vascular (19.0%) and general (7.0%) had the highest number of publications identified, with substantial increases in vascular publications over time. The mean number of citations per year received by neurosurgical articles has increased over time, from 1.65 (before 1991) to 4.12 (2010-2020).

**Conclusions:** Neurosurgery's proportion of high-impact journal publications has increased over time.

**Keywords:** Bibliometrics; High-impact; Medical Journals; Neurosurgery; Publications; Trend.

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