Academic neurosurgery

Previous authors have investigated many factors that predict an academic neurosurgical career over private practice, including attainment of a Doctor of Philosophy (PhD) and number of publications. Research has yet to demonstrate whether a master's degree predicts an academic neurosurgical career. This study quantifies the association between obtaining a Master of Science (MS), Master of Public Health (MPH), or Master of Business Administration (MBA) degree and pursuing a career in academic neurosurgery.

Public data on neurosurgeons who had graduated from Accreditation Council for Graduate Medical Education (ACGME)-accredited residency programs in the period from 1949 to 2019 were collected from residency and professional websites. Residency graduates with a PhD were excluded to isolate the effect of only having a master's degree. A position was considered “academic” if it was affiliated with a hospital that had a neurosurgery residency program; other positions were considered nonacademic. Bivariate analyses were performed with Fisher's exact test. Multivariate analysis was performed using a logistic regression model.

Within the database of neurosurgery residency alumni, there were 47 (4.1%) who held an MS degree, 31 (2.7%) who held an MPH, and 10 (0.9%) who held an MBA. In bivariate analyses, neurosurgeons with MS degrees were significantly more likely to pursue academic careers (OR 2.65, p = 0.0014, 95% CI 1.40-5.20), whereas neurosurgeons with an MPH (OR 1.41, p = 0.36, 95% CI 0.64-3.08) or an MBA (OR 1.00, p = 1.00, 95% CI 0.21-4.26) were not. In the multivariate analysis, an MS degree was independently associated with an academic career (OR 2.48, p = 0.0079, 95% CI 1.28-4.93). Moreover, postresidency h indices of 1 (OR 1.44, p = 0.048, 95% CI 1.00-2.07), 2-3 (OR 2.76, p = 2.01 x 10-8, 95% CI 1.94-3.94), and ≥ 4 (OR 4.88, p < 2.00 x 10-16, 95% CI 3.43-6.99) were all significantly associated with increased odds of pursuing an academic career. Notably, having between 1 and 11 months of protected research time was significantly associated with decreased odds of pursuing academic neurosurgery (OR 0.46, p = 0.049, 95% CI 0.21-0.98).

Neurosurgery residency graduates with MS degrees are more likely to pursue academic neurosurgical careers relative to their non-MS counterparts. Such findings may be used to help predict residency graduates' future potential in academic neurosurgery.