Foreign Medical Graduates: An Integral Component of American Neurosurgery

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Introduction

• Foreign medical graduates (FMGs) have been directly affected by recent changes in United States’ immigration policy, specifically in the form of travel bans and visa restrictions
• These policies may have a detrimental effect on American medicine due to the many contributions of FMGs, such as their involvement with underserved poor and rural communities.

Objectives

• This study compared the demographics, research output, and career trajectories of foreign medical graduates versus those who obtained their medical degree in the United States and also analyzed factors that might influence FMG residency match outcomes.

Methods

• We collected data from online sources on 117 FMGs and 1,214 non-FMGs who graduated from ACGME-accredited neurosurgery residency programs (1960-2018) and assessed for significant differences between the two cohorts. Fisher’s exact test and the Mann-Whitney U test were used for bivariate statistical analyses, and logistic regression models were used for multivariate analyses.

Results

• The majority of FMGs and non-FMGs were male (p=.76)
• FMGs were just as likely as non-FMGs to complete a clinical fellowship (p=.61) and pursue academic careers after residency (p=.42).
• Non-FMGs had significantly higher pre-residency h-indices compared to FMGs (p=3.36 x 10^-5), but there were no significant difference when comparing h-indices during (p=.68) and after (p=.96) residency training.
• FMGs were less likely to attend a “top” residency program by either U.S. News (odds ratio (OR)= 0.33, p=1.60 x 10^-2) or Doximity (OR= 0.39, p= 9.54 x 10^-6) criteria.
• Among FMGs who obtained a neurosurgery residency spot in the U.S., 41.8% had at least 6 years between completing medical school and beginning residency training, and 20% completed a research fellowship during this time. 4 (3.6%) FMGs subsequently attending a residency program at the same location as their research fellowship.
• A total of 10 (9.1%) FMGs completed a neurosurgical residency in their country of origin prior to undergoing residency training within the U.S. Additionally, a cohort of 3 (2.7%) FMGs returned to practice in their home countries after completing a U.S. residency program.

Discussion

• Our findings support the notion that FMGs have greater access and opportunities to engage in research for upon beginning residency training within the U.S.
• Additionally, research from other subspecialties has demonstrated that FMGs may provide equal or better care than U.S.-born counterparts, particularly for underserved communities. Such FMGs may contribute to diversifying a healthcare workforce treating an increasingly heterogeneous U.S. patient population. Providing FMGs with access to world-class neurological research and clinical training may be essential for the development of our next generation of neurological leaders.
• There is limited data within our study to support the notion that FMGs are otherwise any less capable or qualified than non-FMG counterparts. Considering the challenges that FMGs must surmount to train in neurosurgery within the United States, inclusive of moving to a new country, learning a foreign language, and bearing the significant financial burden associated with the residency application process, such applicants likely deserve equal consideration alongside American counterparts.
• Completing a research fellowship after medical school may assist some FMGs in increasing their research output and may secondarily help them in obtaining a U.S. neurosurgery residency spot.

Conclusion

• Our study, aimed at determining the relative academic contributions between FMGs and non-FMGs suggests that FMGs may begin their U.S. residency training with different research backgrounds and achievements relative to their counterparts, but they make comparable contributions to academic neurosurgery once they begin their training.
• Compared to their U.S. medical graduate counterparts, FMGs appear to be equally productive in neurological research and academia through their careers, secondarily continuing to enrich our field.