

Hispanic Authorship in Orthopaedics: A Bibliometric Analysis of Orthopaedic Literature in the United States

Randall Adrian Arroyo Valenciano¹, Simon Thomas Moore, Francis Cruz, Jorge Andrés Garavito, Patricia Rodarte, Mauricio Silva², Rafael Buerba Siller³

¹UC Riverside School of Medicine, ²Orthopaedic Institute For Children, ³Banner Health Center Plus

INTRODUCTION: Orthopaedic surgery has historically been among the least ethnically diverse fields in medicine. The latest 2018 AAOS Census report indicates that only 2.2% of all practicing orthopaedic surgeons in the US identify as Hispanic/Latino. Recent efforts to increase diversity in orthopaedics appear to be succeeding, with the Association of American Medical Colleges (AAMC) reporting in 2023 that 7.4% of all orthopaedic residents in the US are of Hispanic origin. The impact of Hispanic representation on research and orthopaedic literature authorship is unknown. The purpose of this study is to establish Hispanic authorship trends in orthopaedic research by analyzing eight high-impact orthopaedic journals in a recent 10-year period.

METHODS:

This bibliometric analysis extracted original research articles with at least one United States based author from eight high-impact orthopaedic surgery journals from January 2012 to December 2021. Journals selected for review included Journal of Shoulder and Elbow Surgery, American Journal of Sports Medicine, Clinical Orthopaedics and Related Research, Journal of the American Academy of Orthopaedic Surgeons, Journal of Bone and Joint Surgery: American Volume, Journal of Orthopaedic Trauma, Journal of Arthroplasty, and Journal of Pediatric Orthopaedics. Hispanic authorship was determined by matching author surnames to the Word and Perkins (1996) list of the most frequently occurring heavily Hispanic surnames. We determined the annual proportion of Hispanic authorship for first authors, last authors, and any author, for all included articles and stratified by journal. Authorship was assessed by Cochran-Armitage trend tests.

RESULTS:

A total of 15,225 original research articles and 81,686 authors were included in the final analysis. Trend analysis of all included articles during the study period demonstrated increases in Hispanic first authorship (1.21% to 2.52%, $p = 0.0047$), Hispanic total authorship (1.31% to 1.67%, $p = 0.0049$), and total Hispanic last authorship (0.78% to 1.45%, $p = 0.2044$) (**Figure 1**). When stratified by journal, 7 of the 8 journals demonstrated positive trends in Hispanic authorship for first, last, and any author (**Figure 2**).

DISCUSSION AND CONCLUSION:

To our knowledge, this is the first study investigating trends of Hispanic authorship in the orthopaedic literature. Our results suggest that Hispanic authorship has slightly increased over the 10-year study period, with first authorship and total authorship demonstrating the largest increases. Although these trends could reflect the rise in Hispanic representation within the orthopaedic surgery workforce, the overall increase in Hispanic authorship is small. While encouraging, these numbers represent a very small fraction of both the overall orthopedics authorship and Hispanic representation in the field. There is a need to continue encouraging a steady increase in diversity in our specialty, particularly in academics.

