A62

Mohammed Zaidi M.D.

Advisor(s):

Co-author(s): Michael Kozlov

Trends and Emerging Directions in Pediatric Orthopedics: A Bibliometric Analysis

Background: Despite notable progress, broad insight into the future scientific landscape of pediatric orthopedics is lacking. This study aims to analyze the bibliometric trends in pediatric orthopedics to identify key topics, contributors, and emerging areas shaping its future.

Methods: A bibliometric analysis of Web of Science data (1974–2024) assessed citation trends, keyword co-occurrence, and collaboration networks in pediatric orthopedics. Key metrics, including top documents, journals, and geographic contributions, were visualized using Biblioshiny and VOSviewer.

Results: The analysis included 218 publications from 114 sources (1974–2024), with a 6.38% annual growth rate, highlighting increasing interest in pediatric orthopedics. Key themes from keyword analysis included "pediatric trauma," "scoliosis," and "growth plate injuries," with emerging topics like "genomic approaches" and "biomechanics."

The most cited study, Varni et al. (2002), accrued 412 citations, while recent works, such as Woods et al. (2021), showed high annual impact (28.25 citations/year). The United States and Europe led contributions, with strong academic collaboration. Leading journals included Journal of Pediatric Orthopedics and Clinical Orthopedics and Related Research. These findings highlight significant trends and emerging priorities in pediatric orthopedics.

Conclusion: These findings demonstrate the dynamic growth and evolving focus of pediatric orthopedic research, driven by foundational studies and emerging innovations. Strengthening global collaboration and prioritizing cutting-edge topics will be key to advancing the field.