

# Female under Representation as First and Senior Authors in Medicine Subspecialties: A Meta-Analysis of Academic Publications 2nd World Conference on Gender Equality

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## Abstract

**Rationale:** Gender gaps exist in academic leadership positions in the field of medicine. Peer-reviewed publications are crucial to career advancement, and yet little is known regarding gender differences in authorship across different medicine subspecialties research.

**Objectives:** To evaluate gender differences in authorship of medicine subspecialties literature.

**Methods:** The literature was searched using Medical Literature Analysis and Retrieval System Online (MEDLINE; PubMed). All English-language publications across multiple branches of medicine were included. The primary outcome was to evaluate the spectrum of female representation among different medicine subspecialties.

**Results:** We evaluated 43 articles among 13 medicine subspecialties which had a total of 339043 trials among them in total. Female first authorship was significantly lower than male first authorship (36.15% vs. 63.85%,  $p < 0.05$ ). Senior female authorship was also lower for female vs male (26.39% vs. 73.61%,  $p < 0.5$ ). From highest to the least first female authorship was Palliative care (57%), Infectious Diseases (49.3%), Dermatology (44.8%), Nephrology (40%), Psychiatry (39.75%), Rheumatology (37.95%), Oncology (33.60%), Pulmonary, (30.24%)Gastro-enterology (30.22%), Critical care (29.14%), Endocrinology (28.90%), Neurology (28.78%), and Cardiology (20.33%). From highest to the least senior female authorship was Palliative care (42.70%), Rheumatology (35.30%), Infectious Diseases (34.90%), Psychiatry (31.68%), Dermatology (30.33%), Oncology (26.37%), Pulmonary (20%), Gastro-enterology (19.80%), Critical care (18.46%), Neurology (16.70%), and Cardiology (14%)

**Conclusions:** Women comprise slightly more than one-third of first authors and one-fifth of senior authors of medicine research, with Palliative care having the most representation for first and senior authorship and Cardiology being the least represented. These findings may help explain the underrepresentation of women in academic leadership positions and identify targets for improvement. Future research and interventions in studying the factors leading to severely under-representation of females across different medicine subspecialties are urgently needed.

**Keywords:** Gender biases; Gender trends; Medicine subspecialties publication