Growth of International Contributors to Dermatologic Literature

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Background: In the past, authors from a few countries dominated the publication of articles in dermatologic journals that were cited. The growth of dermatology in many additional countries has set the stage for a broader national representation of the authorship of the most frequently cited dermatologic articles.

Objective: To quantify changes in the number and proportion of citations and articles credited to authors from various countries from 1981 to 1996.

Design: We obtained a citation database from the Institute for Scientific Information, Philadelphia, Pa. From this database, we quantified the average number of articles and citations according to the year of publication, journal, and the countries from which authors came.

Setting: Dermatology journals.

Subjects: All articles published in 24 dermatology journals between 1981 and 1996.

Main Outcome Measures: Country of origin of articles and number of citations of these articles.

Results: Authors from 121 countries were credited in whole or in part with authorship of original articles. Ten countries accounted for 82% of all articles published as original articles and 87% of citations to these articles. From 1981 to 1996, the proportion of citations attributed to most western European except Scandinavian countries grew significantly \( (P < .05, t \text{ test}) \), but the proportion credited to authors from the United States fell significantly \( (P < .05, t \text{ test}) \).

Conclusions: International representation of author-cited articles appearing in the dermatology literature is increasing. The growth of scholarly contributions has been especially great for authors from western Europe except Scandinavia.

Arch Dermatol. 1999;135:1074-1076

Two years ago, the homelands of dermatology articles published in 17 top-ranked peer-reviewed international dermatology journals from 1981 to 1994 were summarized.¹ That review demonstrated the prominence of the United States as the source of the dermatologic literature. As a reflection of the growth of investigative and scholarly dermatology throughout the world, the number of articles published per year has grown steadily from 1981 to 1996. In this article, we describe the changes in publications and citations for the countries with the highest number per year of citations for articles published in 24 dermatology journals during 2 periods: 1981 to 1985 and 1991 to June 1996. Not only is the dermatologic literature growing rapidly overall but it is an increasingly international literature.

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RESULTS

Each of the 75807 articles was credited to an average of 1 country as the author’s address. For some articles, no address was listed. Table 2 lists the number of articles and citations by country for the 10 countries with the highest number of citations credited completely or partially credited to them. Also included in Table 2 are the number of original articles and citations to these articles for these 10 countries. The United States received credit alone or with other countries for 36% of all articles published. Altogether, 10 countries were credited alone or with other countries for 87% of all citations to original articles published from 1981 to 1996 and for 82% of all articles published as original articles in 24 dermatology journals we reviewed. Authors from 5 countries were credited with at least 15000 citations to their work (Table 2).
MATERIALS AND METHODS

Our citation database was obtained from the Institute for Scientific Information, Philadelphia, Pa. It includes citation information for all articles published and indexed from 1981 to mid-1996 in 24 journals we identified as the principal clinical and investigative journals in dermatology (Table 1). For this analysis, we calculated the number of articles, original articles, and total citations credited to each country. We considered the journals Dermatology and Dermatologica separately among the 24 journals listed in Table 1. For consistency with past articles, we also separately studied the 4 most frequently cited dermatology journals among the journals listed in Table 1. These are the Journal of Investigative Dermatology (JID), Archives of Dermatology, British Journal of Dermatology (BJD), and Journal of the American Academy of Dermatology (JAAD).

To quantify the relative change in contributions from various countries over time, we compared the average number of publications per year and the average number of citations per year for articles published from 1991 to 1996 with those published from 1981 to 1985. We then examined the relative change in these numbers by country to quantify the relative growth in publications and citations. We limited these analyses to countries whose corresponding authors published at least 200 articles from 1981 to 1996 in the dermatology journals we studied. To test for statistical significance, we calculated 95% confidence intervals based on the t distribution. The criteria for classifying the type of article have been published previously.2

Four journals—JID, Archives of Dermatology, JAAD, and BJD—account for 40% of original articles but 68% of all citations to original articles appearing in these 24 journals. As noted in Table 3, when assessed both according to the number of articles and to the number of citations appearing in the 4 most frequently cited dermatology journals, the country of authorship differed substantially among these 4 journals. In addition, the home country of contributors to these 4 journals was different from that for the other 20 journals we studied (Table 1 and Table 4). For the Archives of Dermatology and the JAAD, more than 65% of original articles and citations to these articles were credited to at least 1 US-based author. In contrast, US-based authors accounted for less than 10% of original articles published in the BJD and less than a third of those published in the other 20 dermatology journals we studied. Excluding non-English-language journals does not substantially change these findings. Authors from outside the United States, United Kingdom, Japan, Germany, and France wrote nearly 40% of articles published in journals other than the Archives of Dermatology, BJD, JAAD, and JID. In the BJD, authors from countries other than the 5 detailed in Table 3 are credited in nearly 30% of articles. For the Archives of Dermatology, JAAD, and JID, this percentage was significantly less (14%, 17%, and 13%, respectively; P<.05 for all comparisons).

From 1981 to 1985, an average of 3973 articles was published each year in the 24 journals we studied. Ten years later, the number of articles published per year increased by 31%. Table 4 presents the relative change from 1981 to 1985 to 1991 to 1996 for the number of citations to original articles attributed to the 20 countries with the most citations from 1991 to 1996. A relative rate of greater than 1 indicates that the number of citations to articles published per year increased more for authors from this country than the average for all 20 countries included in Table 4, and a value of less than 1 implies that the number or rate of publishing citations to articles increased at a slower rate than the average change for all listed countries.
Although relatively few countries dominate the authorship of articles appearing in dermatology journals, from 1981 to 1996 there was a clear internationalization of this literature. In addition to a substantial growth in contributions and citations from many western European countries (except Scandinavia) and Japan, many countries whose authors in the early 1980s contributed few papers to the dermatology journals became more frequently represented. For example, the number of papers published per year, which included authors from Taiwan, Ireland, and Turkey, increased more than 5-fold from 1981 to 1985 to 1991 to 1996. For the United States, the proportion of all original articles published in the 24 journals we surveyed increased at less than 70% of the overall rate of increase in the number of articles published per year in these journals. The proportion of all citations attributed to the United States also fell in the 1990s compared with in the early 1980s. A few countries dramatically increased the number of articles or their percentage of all citations during this study. Among the larger countries, Germany, Austria, Italy, Switzerland, and Spain had notably more rapid increases in the number of citations to articles published in the latter 5 years of the study period compared with the former 5 years of our study.

Although most articles in the Archives of Dermatology, JAAD, and JID still come from the United States, the proportion of original articles in these most frequently cited journals from outside the United States increased substantially during the study period. The overall growth in the number of articles published in these 24 journals could be explained by an increase in scholarly productivity or less stringent criteria for publication. With the passage of time, the home bases of dermatologic scholarship are becoming increasingly diverse, and the most often cited journals increasingly rely on contributors from the entire world.

Accepted for publication April 15, 1999.

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