

## Nordic Dermatological Research: Denmark First – Norway Last

**There are great differences in dermatological research activity in Sweden, Denmark, Finland and Norway, despite many similarities in social and economic conditions. This is documented in a recently published bibliometric study. Historical and cultural factors may partly explain these differences.**

The following is a summary of a recently published paper by Gjersvik et al. The reference for the whole article is the following: Gjersvik P, Nylenna M, Jemec GBE, Haraldstad A-M. *Dermatologic research in the Nordic countries – a bibliometric study. Int J Dermatol 2010; 49: 1276–1281.*

Bibliometric studies, based on counts of articles published in scientific journals, are increasingly used to evaluate scientific productivity and to identify factors that promote or inhibit research performance. The Nordic countries contribute significantly to dermatological research and have a respected position in international dermatology. Anecdotal reports of low academic activity in dermatology in Norway contrast with the situation in Sweden, Denmark, and Finland.

We performed a bibliometric study on dermatological research activity in Sweden, Denmark, Finland and Norway, which was recently published. We made repetitive searches on MEDLINE, using the PubMed search engine, from 1989 through 2008. A dermatological article was defined as either an article in a dermatological scientific journal, regardless of the profession, speciality, address, or affiliation of its first author, or an article in a non-dermatological journal, in which the address or affiliation of its first author included a dermatological institution. All original research articles, review articles, case reports, editorials, commentaries, and research letters, were included (in English only). The articles were allocated to the country of first author's address.

Sweden had the highest number of dermatological articles ( $n=1,896$ ) and Norway the lowest ( $n=249$ ) during the 20-year study period. Per number of inhabitants and per number of MEDLINE articles in each country, Danish dermatology performed best, while Norwegian dermatology performed much worse than the other three countries. The numbers of dermatological articles from Sweden, Denmark, Finland and Norway per million inhabitants were 214, 281, 196 and 55, respectively. Dermatological articles represented 1.4%, 2.3%, 1.6% and 0.6% of each country's total number of MEDLINE articles in English in the study period. Similar patterns were found in relation to gross domestic product (GDP), number of certified dermatologists, number of national dermatological society members, and number of medical schools in each country.

After 2000, the yearly number of dermatological articles from Denmark increased and that from Finland decreased, while the numbers from Sweden and Norway remained relatively stable. For each country, the proportion of articles in the four top-ranking dermatological journals was between 22.1% (Sweden) and 27.3% (Finland).

This study documents large differences in dermatological research activity between Sweden, Denmark, Finland and Norway, despite many similarities in social, political and economic conditions. The causes of these differences are many and complex. In Sweden, Denmark and Finland, the academic traditions are longer and the scientific culture stronger than in Norway, where recruiting and retaining dermatologists with academic qualifications to university departments of dermatology has been difficult for many years. Many dermatologists in Norway are drawn to private practice for reasons of higher levels of autonomy, better working conditions, higher income, and poor hospital career planning. Consequently, academic dermatology in Norway is a small and extremely vulnerable field.

In contrast, dermatological research activity in Denmark is remarkably and increasingly high. This reflects a long-lasting and strong scientific tradition in Danish dermatology. In Denmark, it is common to complete a PhD thesis before entering formal specialist training in dermatology. In addition, Danish dermatology seems to profit from a long-term policy of having strong and closely related academic departments.

The number of scientific articles is a reliable proxy for research activity, although the total number of dermatological articles, as defined in our study, does not cover the total amount of dermatological research in the four countries. We consider our search strategy to be pragmatic, relevant and suitable for a comparative study. Iceland was not included, due to its small size and limited number of dermatologists.

In conclusion, this study documents large differences in dermatological scientific publishing between Sweden, Denmark, Finland and Norway, with Denmark performing best and Norway worst. Historical and cultural factors may partly explain these differences.

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