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World teledermatology productivity in telemedicine literature: A bibliometric analysis of telemedicine publications between 1975 and 2016

Type of article: Short communication

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Abstract

Background: Teledermatology is a new medical technology that is increasingly used and accessible with the development of imaging technologies. The aim of this paper is to perform a bibliometric analysis of the world productivity in telemedicine field.

Methods: We used the Web of Science database and included all teledermatology documents published between 1975 and 2016.

Results: We found a total of 12,641 items and 7,164 of which were original articles. The USA was the leading country with 4,342 articles followed by the UK and Germany. Teledermatology field covered only 6.26% of all telemedicine literature. Herein we evaluated the world telemedicine productivity between 1975 to 2016.

Conclusion: The use of teledermatology is more important in rural areas, especially in which access is difficult. Telemedicine provides the conduction of dermatology applications to places where it is difficult to reach.

Keywords: telemedicine, teledermatology, bibliometrics

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1. Introduction

Teledermatology is a technique for evaluating patient information and documents through communication technology. Teledermatology is one of the most rapidly-developing branches of telemedicine technology. Telemedicine is especially important for the evaluation of patients and diseases in developing countries and rural areas that are difficult to reach.1 Telemedicine reduces treatment costs and follow-up visits and shortens the waiting period.2 In this study, it was aimed to make a bibliometric analysis of telemedicine publications published between 1975 and 2016.

2. Methods

Thomson Reuters Web of Science (WoS; Thomson Reuters, New York, NY, USA) database was used to investigate telemedicine publications. All items published in 2017 were excluded. The statistical analysis of the publications published between 1975 and 2016 was performed. Regression analysis was performed for the statistical assessment. Correlation was evaluated and finalized by Spearman test since data were not normally distributed. Publications reported from England, Wales, Northern Ireland and Scotland were included under the United Kingdom (UK) heading.

3. Results

As the telemedicine keyword was used, 12641 documents published between 1975 and 2016 were detected in the WoS database. 7164 of these documents (54%) were full-text articles followed by proceeding papers (n=3446, 26%), meeting abstracts (n=870, 6.9%) and reviews (n=761, 6%) (Figure 1).

When the top ten publishing countries were ranked, the United States of America (USA) ranked first in the telemedicine field with 4342 publications and 34.3% of the world production. The USA was followed by the UK (6.8%), Germany (6%) and Australia (5.4%) (Figure 2). According to the publication numbers of the last ten years, 2016 was found to be the most document-published year with 1087 items (Figure 3). Between 2015 and 2016, the country with the highest number of publications was the US, again (n=781). However, Australia ranked second (n=157) followed by India (n=134), the UK (n=132) and Italy (n=110) (Figure 4).

We found 791 teledermatology publications between 1976 to 2016. Teledermatology literature was detected to cover only 6.26 % of all telemedicine field. The USA ranked first in teledermatology literature with 312 documents.

4. Discussion

In 2014, we reported an evaluation of world productivity in telemedicine field between 1980 to 2013. The USA ranked first covered 33.8% of world telemedicine publications with 3204 papers followed by the UK and Germany. We found the most productive countries were Cyprus (30.03), Norway (28.19), Australia (19.61), and Greece (18.31).3 We calculated the productivity scores of the countries by a simple formula (production numbers/population x 1,000,000) used in previous studies.4

Our study has one limitation. Our search included only WoS database because it is the most reliable data service for publications and citations. While telemedicine is

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more important for developing countries and rural settlements that are hard to reach, telemedicine was found to be published more frequently in developed countries such as the USA, Germany, Australia and the UK than these regions. Dermatologists in undeveloped and developing countries should be supported and encouraged to produce teledermatology publications since only 6.26 % of telemedicine literature is included in teledermatology field.

5. Figures

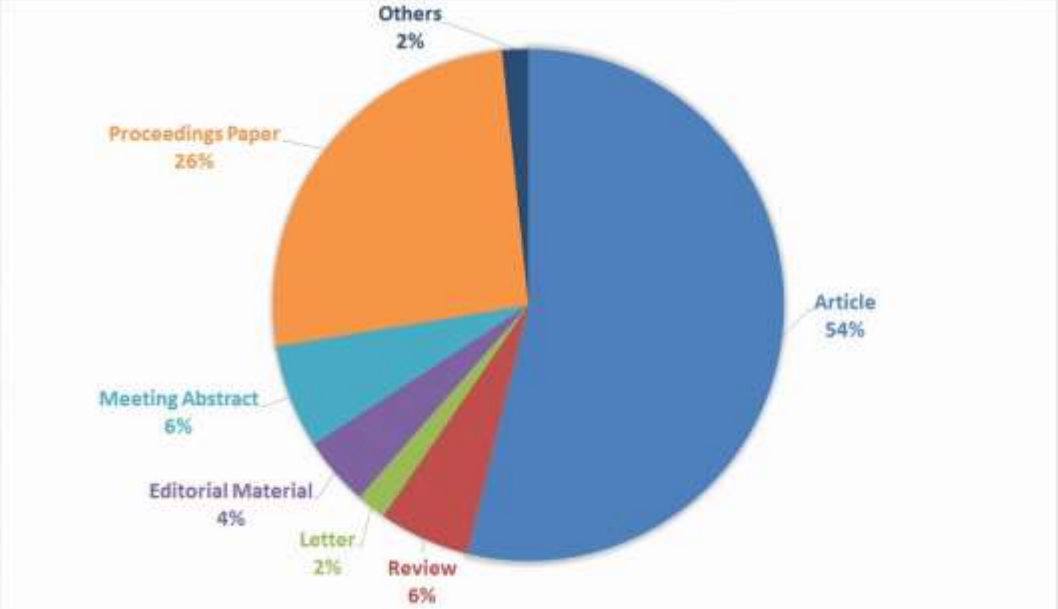

Figure 1. Distribution of telemedicine publication types

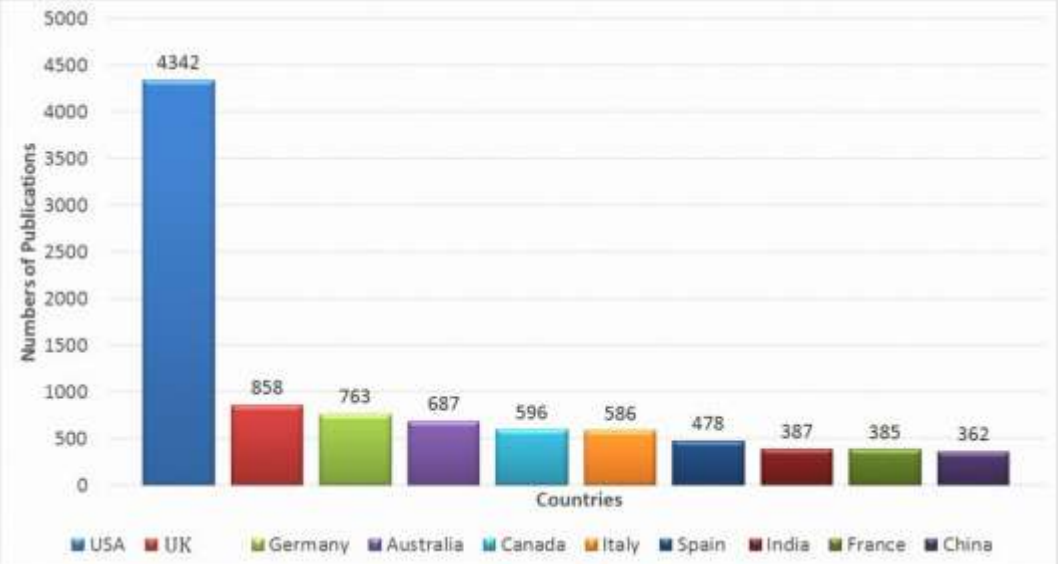

Figure 2. Top ten countries in telemedicine field by total number of publications between 1975 and 2016

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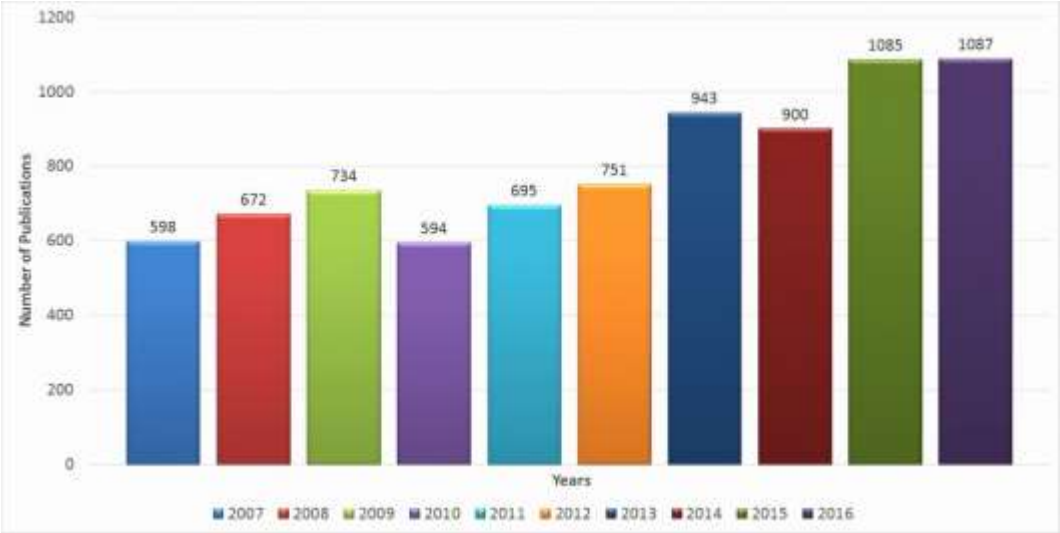

Figure 3. Last ten years with telemedicine publication numbers

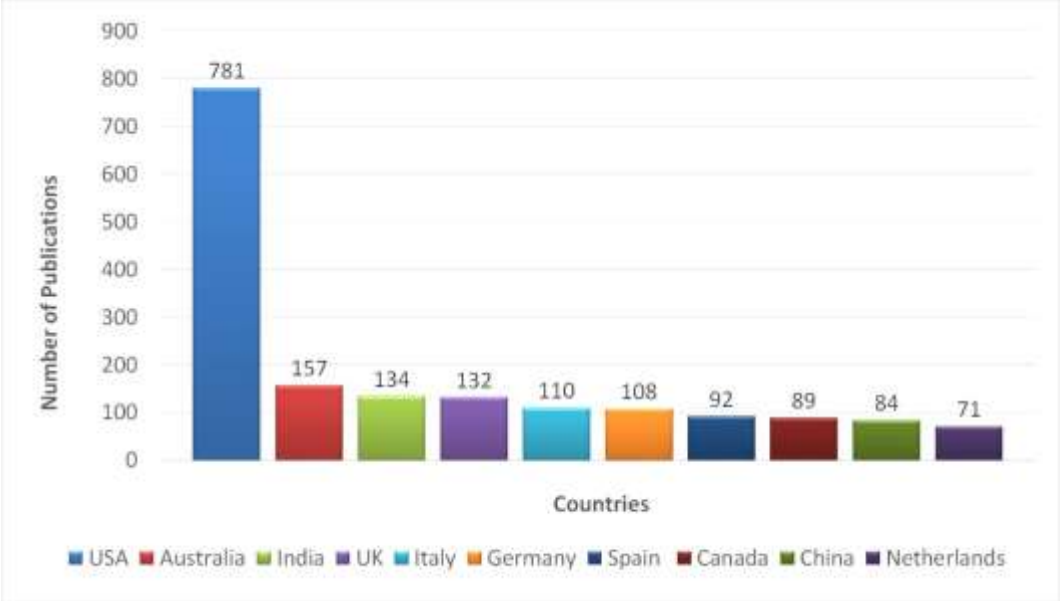

Figure 4. Top ten countries in telemedicine field by total number of publications between 2015 and 2016

6. Conflict of interestsstatement

The authors declare that they have no conflict of interest.

7. Authors' biography

No Biography

8. References

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