

Scientometric Analysis and Scientific Mapping of Articles Published in Twenty Top Journals in the Field of Genetics and Heredity*

Seyed Hossein Mirjalili¹; Farideh Osareh, PhD²

Abstract

Introduction: The quantitative analysis of scientific output, scientific policy making, scientific relationships of researchers, and drawing historiographic outlines are all parts of scientometric discipline. This paper was designed for scientometric analysis of 20 top journals in the field of genetics and heredity in 2000-2008 and to map the scientific structure of their papers.

Methods: This research utilized scientometric methods and procedures to analyze the data from 28813 papers published in 20 journals in the field of genetics and heredity with a minimum impact factor of 5 during the past 5 years. The Web of Science database was used to collect the data and HistCite™ was used to draw the historiographic outline.

Results: All papers, except for 2, have been published in English. The United States, with 56.7% of all published papers, came first while Britain, Germany, France, and Japan stood the second to the fifth, respectively with a large gap. Harvard University was the most active organization in this field by publishing 1121 papers. Of the first 30 organizations, 25 were American. Moreover, 63.5% of the citations were from papers with at least one American author. Although the papers used in this study have been cited 1124511 times internationally, only 7.27% of the citations belonged to the 20 journals evaluated in this study. Cooperation had a rising trend amongst authors and the average number of co-authors increased from 6.03 in 2000 to 8.05 in 2008. The scientific outline drawn based on the top 144 papers within this discipline showed that 4 clusters had been formed during 2000-2008 of which 2 clusters covered human genetics diversity and its various sub disciplines. The other two clusters covered bioinformatics or software and database applications and utilizing advanced statistical methods in analyzing data in this field.

Conclusion: The cooperation amongst researchers in publishing papers was high and increasing. The scientists in the field of genetics covered a vast number of papers in their literature review which relied extensively on old and historical publications. Bioinformatics and statistical methods were also found to be of great importance in this field.

Keywords: Periodicals; Databases; Genetics; Heredity; Citation.

Type of article: Original article

Received: 6 Jun, 2010

Accepted: 20 Feb, 2011

Citation: Mirjalili SH, Osareh F. *Scientometric Analysis and Scientific Mapping of Articles Published in Twenty Top Journals in the Field of Genetics and Heredity*. Health Information Management 2012; 9(1): 89.

* This was an independent article with no financial support by any institution.

1. Lecturer, Library and Information Science, Yazd University, Yazd, Iran And PhD Student, Library and Information science, Shahid Chamran University of Ahwaz, Ahwaz, Iran.

2. Professor, Library and Information science, Shahid Chamran University of Ahwaz, Ahwaz, Iran. (Corresponding Author) Email: osareh.f@gmail.com