INCREASING IN THE INTEREST ON MYOPIA CONTROL

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INTRODUCTION

Myopia is the most common refractive error worldwide. In recent decades there has been a significant increase of myopic people becoming an epidemic. The consequences are serious in terms of eye health and also economically due to the risks, such as macular degeneration, retinal detachment or cataract. These make of methods to control myopia as an emerging issue.

MATERIAL AND METHOD

The databases used in this bibliometric study were SCOPUS, is the largest abstract and citation database of peer-reviewed literature: scientific journals, books and conference proceedings. It covers nearly 22,000 titles from over 5,000 publishers, of which 20,000 are peer-reviewed journals in the scientific, technical, medical, and social sciences (including arts and humanities).

Using remote downloading techniques, articles published from 1987 (year in which continuation of papers begin) to 2015 and containing the descriptor "myopia control", limited to the fields title, key words and/or abstract, were retrieved. The bibliometric analysis included the following indicators: Price index, duplication time and annual growth rate and Lotka productivity level .

Once these publications were compiled, they were grouped according to the method used to control myopia. On the one hand the ones with pharmacological treatment, distinguishing between atropine and pirenzepine. On the other hand those using optical strategies, differentiating orthokeratology from other kind of contact lenses, such as multifocal. Finally works dealing with glasses to control myopia were also grouped.

RESULTS

Applying the search criteria, the authors have recovered for the 1987–2015 period 105 contributions (articles, reviews, letters to the editor, etc.). Five of them have been ruled out after a manual debugging by not meeting the requirements the study.

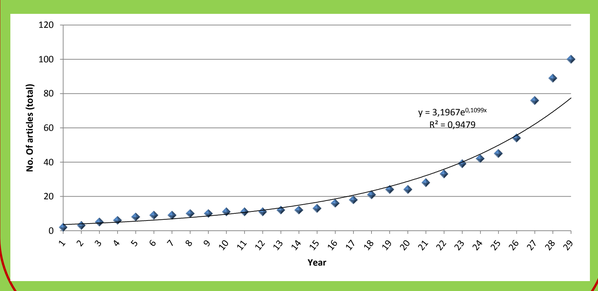
To assess whether the increase in scientific production follows the Price law of exponential growth, linear and exponential fitting of the data obtained was done. According to this mathematical expression, the value of r (coefficient of determination) is higher for the linear curve (0.442) vs. exponential (0.176). The last three years of the study (2013-2015), are the ones with the largest number of documents, with 55.76% of them.



Using equation to calculate the doubling time, it is:

$$D = \frac{Ln2}{b} = \frac{0{,}68904}{0{,}109} = 6{,}32$$

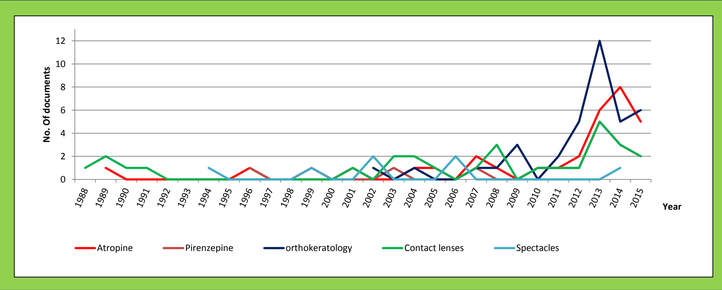
b: constant relating the rate of growth and size acquired of this Science.



If authors are classified according to their productivity rate, underLotka distribution, it is noted that the largest group is made up of small producers (83.40%). The most productive authors, with 37.5% of publications are Walline Cho P. J.J. Gilmartin B. Grosvenor T. S. W. Cheung.

In terms of geographical distribution, five countries account for about 80% of production (79.8%). They are USA, Australia, China, Hong Kong and United Kingdom. The most productive institutions are University of Houston, Hong Kong Polytechnic University, Ohio State University, Aston University and University of New South Wales UNSW Australia.

The distribution of documents, for years, according to the strategy to control myopia is as follows:



CONCLUSIONS

The scientific literature on myopia control is in a phase of linear growth. The period in which more documents are collected is the three-year period from 2013 to 2015, with more than 50% of them. This shows the great scientific interest that has raised this issue in recent years. The doubling time of the literature is 6.32 years.

The largest number of collected documents, corresponds to strategies of myopia control by orthokeratology (35.58%) and atropine (30.77%). The lower number corresponds to glasses, with only 6.73% of the documents.

REFERENCES

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