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SPORTS SCIENCE PUBLICATION IN YOGA: BIBLIOMETRIC ANALYSIS

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ABSTRACT

Background: In this modern world yoga become the popular activity across the world. This bibliometric analysis aimed to provide a systematic review analysis in the field of Sports Science on yoga research publication.

Objectives: In this bibliometric analysis used to find the information about the yoga related research publication done in the sports science.

Methods: Web of science database used to gather the data regarding yoga in the sports science field. By using the various keyword related to the terms of "Yoga". Based on the inclusion and exclusion criteria the data were finalized and expert in the plain text file format. The export document analysis in the R studio (Biblioshiny) software.

Results: From this bibliometric analysis we come to know very few studies only conducted in the field of sports science to improve the sports performance and fitness abilities.

Key words: Yoga, Bibliometric analysis, Sports Science, R Studio

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INTRODUCTION

Yoga is an ancient practice of Indians. It started out as a spiritual practise but is now widely used to encourage both physical and mental wellbeing (Muthappan, Ilangovan, Subramanian, Durairajan, & Elumalai, 2020). There are many various styles of yoga performed, each with its own unique characteristics and combinations of the fundamental elements of postures (asanas), breathing exercises (pranayama), and relaxation or meditation (Bussing, Hedtstuck, Khalsa, Ostermann, & Heusser, 2012; Park, Riley, Bedesin, & Stewart, 2016). Yoga has been proven to be an effective treatment for a variety of health issues, including bone problems (Haaz, & Bartlett, 2011), diabetes (Innes & Vincent, 2007), asthma (Posadzki & Ernst, 2011), pain or back pain (Posadzki, Ernst, Terry, & Lee, 2011; Wieland, Skoetz, Pilkington, Vempati, D'Adamo, & Berman, 2017), depression (Uebelacker, Epstein-Lubow, Gaudiano, Tremont, Battle, & Miller, 2010) and rehabilitation (Telles, Kozasa, Bernardi, & Cohen, 2013).

Research is a significant part of the development of the academic or educational institute. An institute's research output is a measure of the quality of education offered and its commitment to research (Pfeffer, 2015). There are several ways to measure the quantity and quality of the research output of an institution. A bibliometric method is a tool used to assess the academic institutions' quantitative output in scientific research (Muthappan, Ilangovan, Subramanian, Durairajan, & Elumalai, 2020). This present study planned to find the number of scientific publications in the field of yoga at web of science database.

Objectives

The primary objective of this study to estimate the yoga-related research articles published in the Web of Science database. In particular, this study emphases on the following objectives: (i) To describe growth of research publication; (ii) To identify the leading countries doing research in yoga and (iii) To identify the top 10 journals publishing yoga research papers in the web of science database.

Methods:

Database

Web of Science is an online platform containing databases of bibliographic information and information analysis resources that allow the evaluation and analysis of research performance, especially in the field of social sciences. In addition, it presents a series of

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analysis tools that allow specific and concrete searches to be carried out (Lopez Belmonte, Moreno-Guerrero, Lopez Nunez, & Pozo Sanchez, 2019; Moreno-Guerrero, Gomez-Garcia, Lopez-Belmonte, & Rodriguez-Jimenez, 2020). The Mesh terms also one of the key features of Web of Science to explore and retrieve the scientific article. So, we have taken this database to retrieve the Yoga related published scientific articles.

Keywords

In this scientific analysis we have used advance search in web of Science, and used "MeSH" term "yoga'' and used the following yoga related keywords: "Yoga", "Asana", Pranayama", "Yogasana", "Yogic exercise", and "Breathing Asana". We haven't restricted the timeline or country-specific for the search, so all the articles were included in this bibliometric analysis.

Data extraction and analysis

By using the above-mentioned Mesh term, we found 6,528 research documents in 185 filed of subjects from the web of science data base. The first exclusion criteria fixed to only one filed of subject as Sports Science, other than the field of research works not consider. In these 368 documents found from the 6528 articles. The second exclusion criteria fixed based on the document types with respect of article only. Finally, we retrieved 144 articles and export the data in the plain text file format. The extracted data were cleaned, analysed, and presented as frequency and proportion R Studio (biblioshiny) was used to analyse the data.

Bibliometric indicators

The retrieved documents from web of Science database were analyzed and we used the following bibliometric indicators: number of articles published over the years, Top 10 countries leading in the research production and The Top 10 journal, which published more number of scientific publication in the field of yoga papers in sports science.

Ethics:

Since this analysis was based on previously published research, no ethics approval was required.

Results:

We retrieved 144 article type documents in sports science research articles using the mentioned mesh terms. The study finds that the first research article related to yoga in the field

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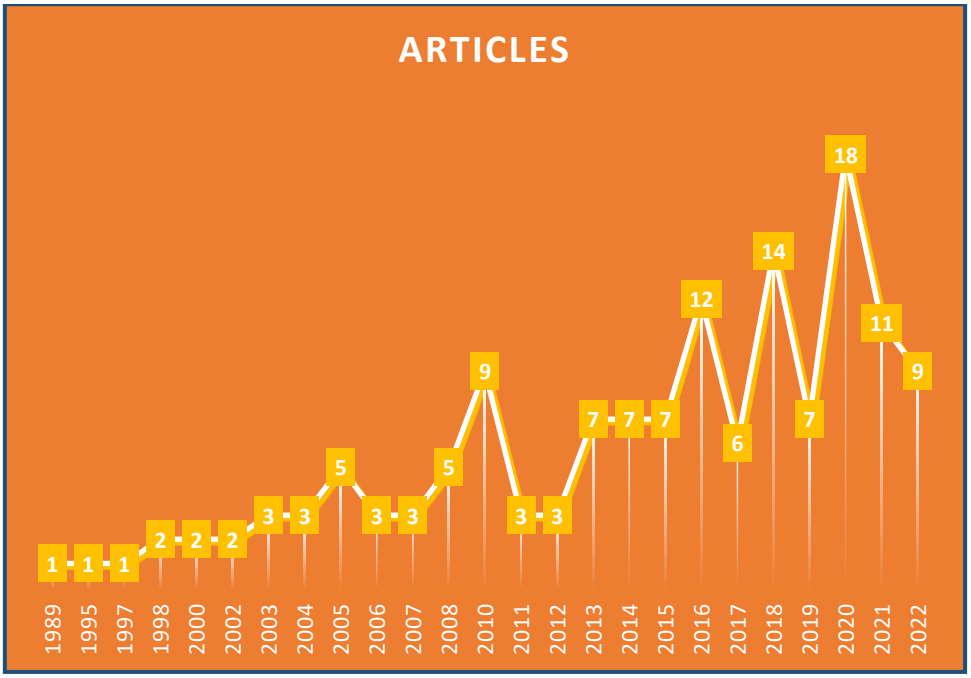
of sports science was published in 1989. Between 1990 to 1994, 1996, 1999, 2001, and 2009 it was found that there is no scientific research publication in the field of sports science in yoga. It was observed that there was gradual increase in article published on 1995, 1998, 2003, 2005, 2009, 2016 respectively as show in Figure 1. This indicates the substantial growth of the field of Yoga globally. There was a steep increase in the number of publications from 2016 onwards and the maximum number of articles (18) published was in 2020.

Figure 1: Year Wise Publication List



In sports science field the USA country has produced more research compared with other countries with 59 (40.95 %) yoga related articles, similarly Australia publish 14 (9.72 %) of scientific research publication in the particular field of study, however india has published 4 (2.78 %) doing research in yoga in the field of Sports Science as shown in Figure 2.

Figure 2: TOP 10 COUNTRY PUBLISHING RESEARCH ARTICLES

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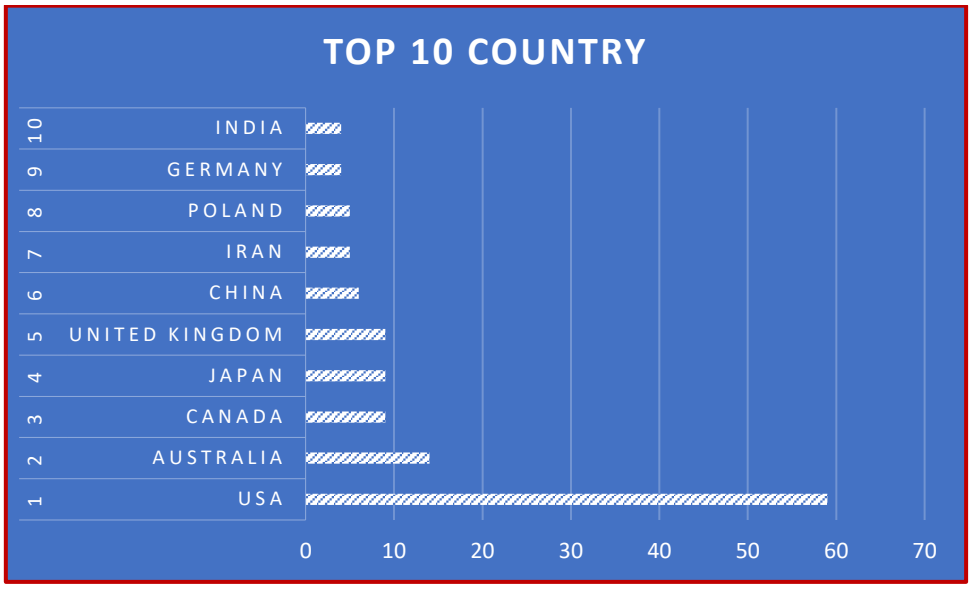

Table 1: Shows top 10 sources of journals publishing the yoga research in Sports Science

Rank	Sources	Articles	Percentage
1	JOURNAL OF SPORTS MEDICINE AND PHYSICAL FITNESS	9	6.25
2	ACSMS HEALTH & FITNESS JOURNAL	7	4.86
3	ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION	7	4.86
4	AMERICAN JOURNAL OF PHYSICAL MEDICINE & REHABILITATION	6	4.17
5	JOURNAL OF AGING AND PHYSICAL ACTIVITY	6	4.17
6	JOURNAL OF STRENGTH AND CONDITIONING RESEARCH	6	4.17
7	PSYCHOLOGY OF SPORT AND EXERCISE	6	4.17
8	JOURNAL OF SCIENCE AND MEDICINE IN SPORT	5	3.47
9	MEDICINE AND SCIENCE IN SPORTS AND EXERCISE	5	3.47

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10	BMC SPORTS SCIENCE MEDICINE AND REHABILITATION	4	2.78

Table 1 shows that the Journal of sports medicine and physical fitness publish no. of research publication 9 (6.25 %) in yoga. ACSMS health & fitness journal, and Archives of physical medicine and rehabilitation had 7 (4.86 %) in sports science field.

Discussion and Conclusion

This scientific bibliometric analysis provides a quantitative report of the yoga research publications in the field of Sports Science from 1989 to 2022 in the Web of science database. The present bibliometric analysis primary observation is the 9.59 % of annual growth occur in the number of yoga publications in the sports science area of subject. This systematic review analysis endure to facilitate evaluating subjects' research performance, a system of medicine, nations, and institution. We recommend the research to do more research with yoga to enhance the health, lifestyle, especially in the field of sports to improve the performance with different styles of yoga

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