

A Bibliometric Analysis of the IeJSME: 15 Years of Perseverance (2007-2021)

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Launched in 2007 by the International Medical University with Professor Richard Loh Li-Cher as the founding Editor, the International eJournal of Science, Medicine and Education (IeJSME) is a free online open-access journal. The fundamental objective of the journal is to provide a forum for disseminating quality articles of important scientific merit to the international research community.¹

The journal set out initially to publish two issues annually. However, it began to publish three regular issues per year in 2014. The journal had successfully obtained an International Standard Serial Number (ISSN) in 2011 from the National Library of Malaysia and was subsequently registered on various websites

including Directory of Open Access Journals (DOAJ), EBSCO, Malaysian Citation Centre (MyCITE), Index Copernicus International and WHO Western Pacific Region Index Medicus (WPRIM).

The journal has published more than 200 original articles and reviews as well as articles in supplement issues. Currently, the IeJSME publishes original articles, review articles, case reports, commentaries, letters to editors, and conference abstracts.

This paper summarises the patterns of publications such as study designs and citation counts of the published articles in the IeJSME for the past 15 years (2007 to 2021) using the Google Scholar database which is an open-access web-based search engine indexing scholarly literature across a broad range of published formats and disciplines.²

Types of Articles Published

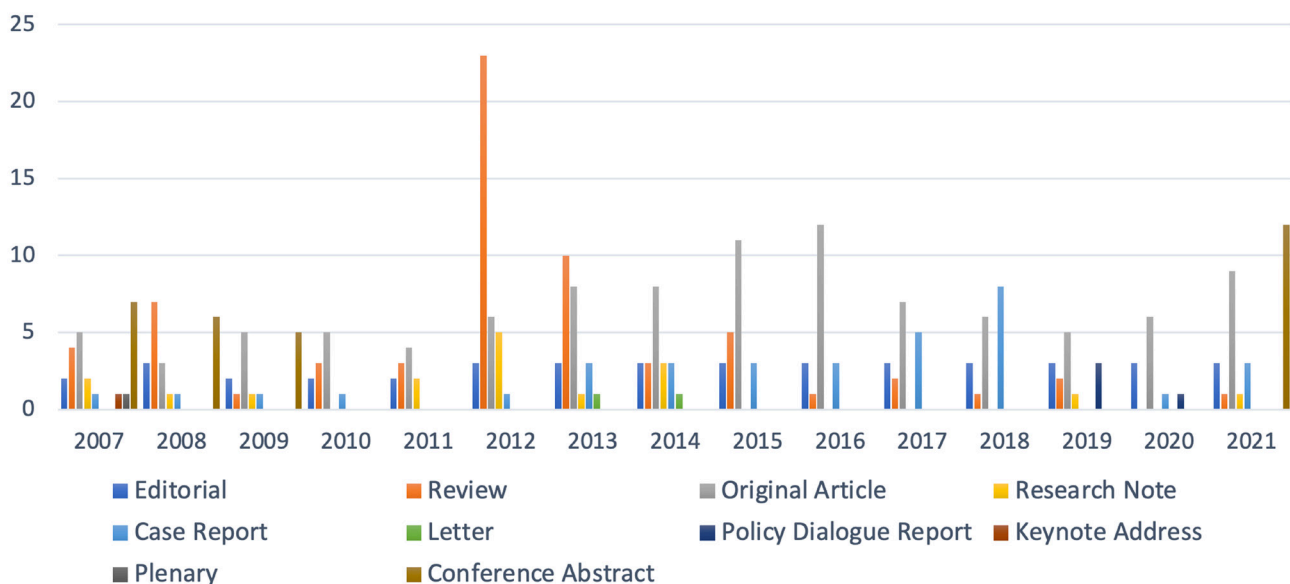


Figure I: Types of Articles Published by the IeJSME, 2007-2021

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The types of articles published by the IeJSME from 2007-2021 is shown in Figure I. Original articles constitute the largest category (66, 22.3%) followed by review articles (41, 13.85%).

Total Articles Published and Authorship Patterns

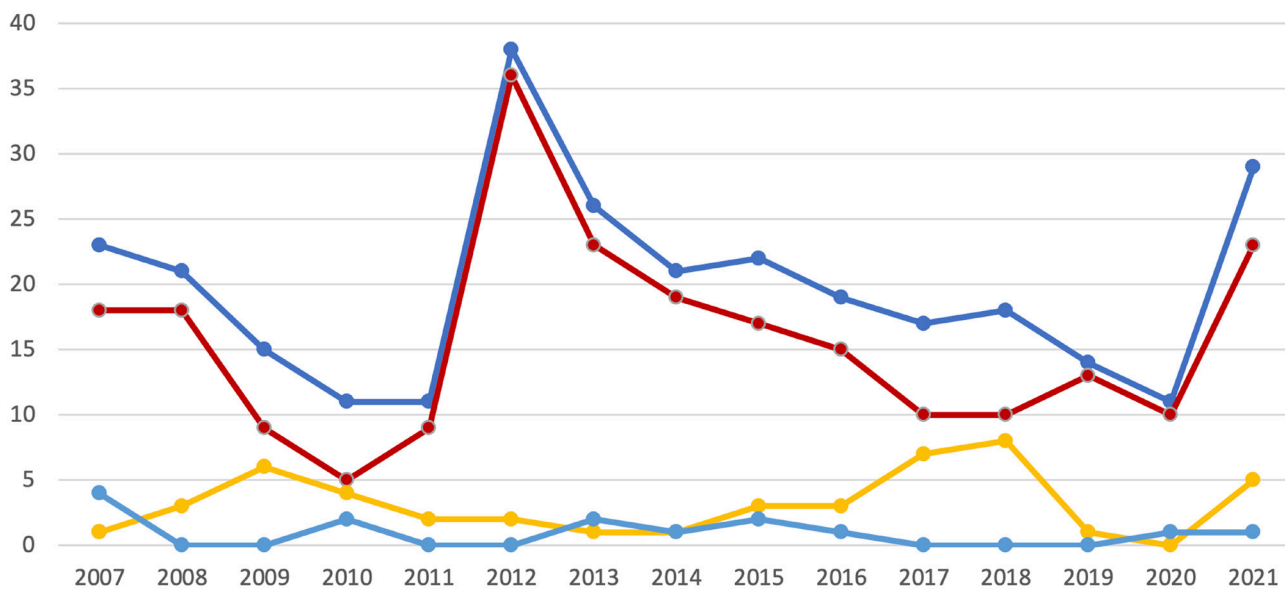


Figure II: Total Articles Published and Authorship Patterns of the IeJSME, 2007-2021

The IeJSME has published 42 issues encompassing a total of 296 articles.

The journal took some time to establish itself and was helped by an IMU anniversary issue in 2012. The number of original articles published increased steadily from 2011 till 2016 but has fluctuated in number since with an encouraging increase in the last two years.

Most of our principal contributors (79%) are affiliated with the International Medical University, but there have been contributors from overseas (4.7%) and other institutions in Malaysia (15.9%) (Figure II).

Among other authors, a total of 73 institutions were represented out of which 25 (34.25%) were from overseas. The top 10 affiliated institutions were Hospital Tuanku Jaafar, Seremban (16 articles), Penang Medical College (11 articles), Universiti Malaya (11 articles), Hospital Melaka (6 articles), Hospital Sultanah Bahiyah, Kedah (4 articles), Hospital Tengku Ampuan Afzan, Kuantan (4 articles), International Islamic University Malaysia, Kuantan (4 articles), Hospital Kuala Lipis, Pahang (3 articles), Open University (3 articles), and Universiti Sains Malaysia, Kubang Kerian (3 articles).

Study Designs

Only published original articles (n=100) and research notes (n=17) were analysed for their study designs. The majority of the published articles were cross-sectional studies (n=79, 67.5%). Seven articles (5.98%) were retrospective studies and seven articles (5.98%) were uncategorised. Five articles (4.27%) were experimental studies while another 5 (4.27%) articles were laboratory studies. A small minority of three papers (2.56%) were retrospective analysis followed by 2 articles (1.71%) which were item analysis studies, 2 articles (1.71%) being longitudinal studies, and 2 articles (1.71%) being observational studies. The remaining 5 articles were each being bibliometric analysis, content analysis, mixed methods study, randomised controlled trial, and literature review, respectively.

Domains of Study of Published Articles in the IeJSME, 2007-2021

Only editorials, reviews, original articles, research notes, policy dialogue reports, and case reports were analysed for their domains of study (medicine, science, or medical education). Letters, keynote address, plenary, and conference abstracts were excluded. A total of 179 (70.5%) of the published articles fell under the domain of medicine followed by 64 (25.2%) articles under the domain of medical education. Only 11 (4.3%) articles were published under the domain of science.

Subject Areas

After medical education which accounted for 25.2% of the 254 articles, public health was the next largest subject area among the remaining published articles

(n=40, 15.7%). This was followed by nursing science (n=17, 6.69%); environmental health (n=15, 5.9%); obstetrics and gynecology (n=12, 4.72%); clinical practice (n=11, 4.33%); cancer (n=10, 3.94%); and nutrition and dietetics (n=8, 3.15%).

In addition, 7 (2.76%) articles were related to clinical research, non-communicable disease, and tropical medicine each, while 6 (2.36%) articles were related to orthopedics, pediatrics, and psychology each. Meanwhile 5 (1.97%) articles were related to drug delivery and 4 (1.58%) articles were related to oral health.

Three (1.18%) articles fell under the subject areas of big data, life sciences, and respiratory disease each. Also, 10 (3.93%) articles were of the subject areas of chemistry, gastrointestinal disease, neuroscience, rehabilitation, and rheumatology with 2 (0.79%) articles in each of subject areas. Lastly, the remaining 10 articles (3.93%) were each from the subject areas of allergy, bioactive molecules, communicable disease, complementary and traditional medicine, endocrinology, immunology, infections, musculoskeletal disease, parasitology, and travel medicine.

Citation Counts

Total citation counts for each article were retrieved from Google Scholar database on 2nd Aug 2022. The 10 articles of the IeJSME with the highest citation counts are summarised in Table I.

Table I: Top 10 Most Cited Articles of IeJSME, 2007-2021

NO	AUTHORS	AFFILIATION	TITLE	Article Category / Type	CITATIONS
1	Wan-Loy Chu	IMU	Biotechnological applications of microalgae	Review Article	179
2	Mitra N K, Nagaraja H S, Ponnudurai G, Judson J P	IMU	The levels of difficulty and discrimination indices in Type A multiple choice questions of pre-clinical Semester 1 multi-disciplinary summative tests	Original Article	159
3	Pei Kuan Lai, Pek Hong Lim	IMU	Concept of professional socialisation in nursing	Research Note	67
4	Patil Sapna S, Hasamnis Ameya A, Pathare Rooma S, Parmar Aarti, Rashid A K, Narayan K A	Asian Institute of Medicine, Science and Technology University, Kedah	Prevalence of exclusive breast feeding and its correlates in an urban slum in western India	Original Article	65
5	Bharti N Karelia, Ajita Pillai, Bhavisha N Vegada	PDU Government Medical College, India	The levels of difficulty and discrimination indices and relationship between them in four-response type multiple choice questions of pharmacology summative tests of Year II MBBS students	Original Article	53
6	Geok-Lin Khor	IMU	Food availability and the rising obesity prevalence in Malaysia	Review Article	52
7	Syer Ree Tee, Xin Yun Teoh, Wan Abdul Rahman Wan Mohd Aiman, Ahmad Aiful, Calvin Siu Yee Har, Zi Fu Tan, Abdul Rashid Khan	Penang Medical College	The prevalence of hypertension and its associated risk factors in two rural communities in Penang, Malaysia	Original Article	50
8	Stephen Arthur Hudson, John Jackson McAnaw, Barbara Julienne Johnson	University of Strathclyde, Glasgow	The changing roles of pharmacists in society	Review Article	37
9	Hematram Yadav	IMU	A review of maternal mortality in Malaysia	Review Article	28
10	Jagmohni Kaur Sidhu	IMU	Effect of stress on medical students	Research Note	26

It is noteworthy that out of the 100 original articles published in the 15 years period, 45 articles were found to have recorded zero citation but the average citation count per year for original articles is 2.9.

The IeJSME serves as a general (medical and health sciences) rather than a specialty medical journal.³ A wider coverage of research topics is crucial to add to the enrichment of the knowledge reservoir for this journal as well as to ensure the sustainability of the journal by soliciting sufficient manuscripts. Moreover, it provides valuable learning opportunities and serves as a good platform for novice researchers including the undergraduate medical students to publish their hard work with certain research quality.³ This objective has been met with an average of 15-20 articles published each year within the last 1.5 decades. Although the number of published articles has been fluctuating throughout the years, the IeJSME continues to receive submissions not only from the IMU but also other institutions in Malaysia and abroad.

As the name suggests, IeJSME welcomes articles in the domains of medicine, science, and medical education. The analysis revealed that a big proportion of the published articles fell under the medicine domain. This is justifiable as IeJSME is the journal of the IMU which is a medical university. Nevertheless, IeJSME has been publishing articles covering a wide range of subject areas and has attracted authors with different and vast research interests.

The IeJSME does not only seek quantity of published articles but also quality as well. Besides citation, each published article is easily retrievable from Google Scholar which is a widely accessible online database. Although the analysis in this study revealed that a

large proportion of original articles (45%) had not been cited at all, this might likely have been because the official website was intermittently inaccessible during 2019-2021 while undergoing upgrading and maintenance.

As the name of the journal suggests, the IeJSME has been geared towards establishing international relevance and importance as well as receiving international recognition.³ This objective has also been achieved with the involvement of authors and co-authors from overseas countries, as well as authors affiliated with institutions abroad. The analysis of this paper revealed that the number of non-IMU affiliated authors had been fluctuating throughout the 15 years but the number of overseas authors had been decreasing. This suggests that IeJSME needs to improve its visibility particularly amongst the international readers and gear up its publicity to attract more international authorship. By welcoming international authorship, the IeJSME will serve as a good platform for scholastic interactions as well as open doors for potential international collaborations.

Looking back, the IeJSME has come a long way since its first establishment in a local university. From its first publication of two issues per year, it is now a tri-annual journal. After the 15-year journey, the IeJSME is now relatively well-established as a medical journal with regular publications. Moving forward, the IeJSME is gearing up its efforts towards achieving its aim to be indexed on international websites such as Scopus and the National Library of Medicine or PubMed. Nevertheless, there is still room for more improvement. There may be a need to move the direction of the journal by adopting certain editorial policies.³ Perhaps it is timely for the editors to

consider having a fixed theme or topic for every issue to improve the quality and quantity of publications.

The IeJSME has thrived and undergone development within these 15 years. It will continue to strive forward to improve and is grateful for the support

from both authors and readers throughout these years. The journal will move forward to fill more important niches in basic sciences, clinical practice, and health professions education and this will be accelerated once it is indexed in an international website.

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