



Health Economic Evaluation in Iran (1998-2017), a Bibliometrics Analysis

Aziz Rezapour¹, Amirali Moradpour^{2*}, Sirous Panahi³, Javad Javan-noughabi⁴, Sajad Vahedi⁴

¹Associate professor, Health Management and Economics Research Center, Iran University of Medical Sciences, Tehran, Iran,

² Department of Health Economics, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran,

³Assistant professor, Department of Medical Library and Information Sciences, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran,

⁴Health Management and Economics Research Center, Iran University of Medical Sciences, Tehran, Iran.

ABSTRACT

Economic evaluation is an important tool for health policy and optimal resource allocation. The aim of this study was to present an overview and bibliometric analysis of health economic evaluation articles in Iran during the years 1998-2017. **Material and methods:** A methodical analysis was conducted for classifying English and Persian studies using ProQuest, Google Scholar, PubMed, Web of Science, CINAHL, International Pharmaceutical Abstract and Persian databases including MagIran, Elm net and SID. The retrieved articles were categorized by research topics, type of intervention, type of economic evaluation, and year of publication. Impact Factor of the journals, citation analysis of the first authors, most cited topics and average citations per item were analyzed. **Results:** 474 articles were retrieved from all search engines after excluding irrelevant papers, 134 articles were included in the review. 70 percent of Iran's economic evaluation studies have been conducted over the past six years. Cost-effectiveness analysis was the most used method with 78%; Therapeutic interventions including medicines, vaccines, and medical equipment with 51.5 percent were the most frequent interventions. The first topic of the studies was cancer and neoplasm with 17.2 percent, the pattern of 3-5 writers and 6-10 pages was the most used. The medical universities of Tehran, Iran, and Shiraz provided the most articles. Among the writers, Nikfar had the most contributions with 6 articles. The citation rate for Iran's economic evaluation studies was 59 percent. The average citation for each article was 4.5, and 90 percent of the articles were printed in English. The "Value in Health" had the highest share in publish, and 53% of articles were published in foreign magazines. **Discussion:** There has been a growing trend, over the recent years in Iranian health economic evaluation articles, but most studies have been supported by academic and research centers and not by national healthcare decision and policy-makers. To increase their participation, some activities such as improving the quality of design, implement, and report of health economic evaluation studies, using the participation of leading researchers and universities in this field, adjusting with the priorities of decision-making centers, and updating guidelines are needed.

Key Words: Health Economic Evaluation, Iran, Bibliometrics.

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INTRODUCTION

Knowledge production is one of the main indicators of

the development of countries to measurement of sciences which is used in various fields and domains [1]. In the 1950s and 1960s, following increasing information volumes and expanding experimental products, the

Corresponding author: Amirali Moradpour

Address: Department of Health Economics, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran.

E-mail: ✉ moradpour.a@iums.ac.ir

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approach was coupled with quantifying science by measuring the amount of scientific information in various areas with the creation modern fields such as Bibliometrics, Librametrics, Scientometrics, Infometrics, and webometrics [2]. In the bibliometrics, by reviewing the published articles in the scientific journals, it has been feasible to determine the frequency of the researches and their trend in the country, the universities, the scientific disciplines, the individuals; and these findings can be used to make a plan for the future [3]. A bibliometric study based on the definition is a quantitative analysis of literature in which published books and journals are reviewed over a period and its purpose is measuring the quantitative aspects of published texts [4]. Scientists use Bibliometric studies in selecting materials, studying published patterns, introducing scientific domains, and presenting high qualified authors and articles, and their quality assessment, thematic characteristics of writings and scientometrics[5].

According to the WHO, 2017, Iran is an Upper middle-income country (Upper-MICs) (per capita income US \$19130) and its health expenditure accounts for about 6.9 percent of GDP [6]. Investigations in Iran have shown that factors such as introducing new medical technologies, the social induced-demand for the latest therapeutic procedures and expensive drugs, and induced-supply by physicians caused this process to be carried out without the use of a scientific economic evaluation, experts' knowledge, and prior experiences [7].

Economic evaluation of health interventions as one of the main parts of health economics is the subject of many articles[8]. Based on Drummond, full economic evaluation is a study for investigating the efficiency of various interventions on human health by combining cost and effectiveness data in cost-effectiveness analysis (CEA), cost-utility analysis (CUA), and cost-benefit analysis (CBA)[9].

For the progress of the health economics science and the interest of the specialists in this field, many articles are published annually in the scientific journals. Iranian researchers, along with the researchers from advanced

countries, have produced high-quality scientific papers on economic evaluation. "Cost-benefit analysis of treatments of depressed patients in Kurdistan province in 1993" was the first important article published by Ahmad Ghazizadeh in 2001[10]. Therefore, it is very important to conduct a quantitative and qualitative assessment of these papers.

The aim of this study was to illustrate the current state of health economic evaluation studies in Iran. This review can provide a wider perspective on health economic evaluation studies in Iran, and can be a basis for comparing the literature in Iran and developed countries.

MATERIALS AND METHODS

Search strategies

A bibliometric review of the Iranian economic evaluation articles was conducted using both English and Persian electronic database between 1998-2017. The following international databases were used to search: NHS Economic Evaluation Database (EED), Pubmed, Embase, Web of Science, EconLit, and Google scholar. Mag Iran, Irandoc, Noormags, ElmNet, and SID were searched to classify the papers published in national journals (in Persian and English). The references of collected articles were manually searched for further papers. The keywords used for the literature search were: "cost", "economic evaluation", "cost- effectiveness analysis", "cost-effectiveness", "cost-utility", "cost-benefit analysis", "cost-utility analysis", and "cost-benefit" in the title or abstract of the articles.

The title and the abstract of the documents were retrieved to identify related articles and eliminate inappropriate or duplicate papers. Two reviewers made the selection, and a third reviewer resolved any disagreement about inclusion or exclusion of the specific articles. The search strategy of the present study has been represented in Figure 1 based on the PRISMA guidelines for systematic reviews [11].

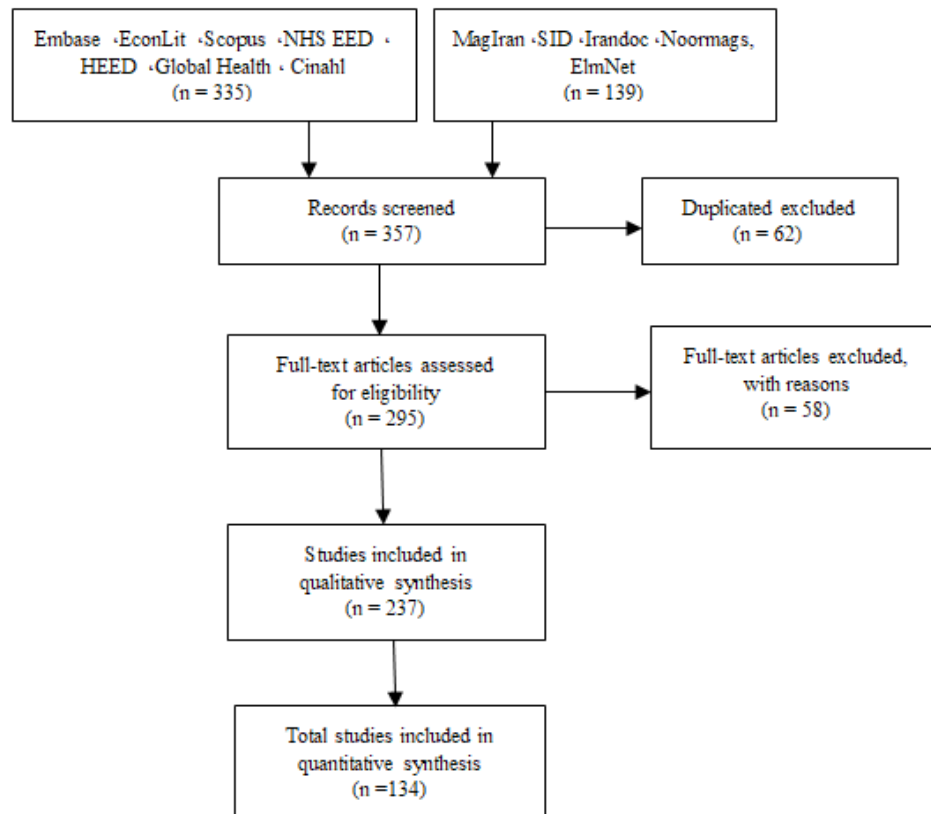


Figure 1: PRISMA flowchart

The following inclusion criteria used:

- Full economic evaluation (cost-effectiveness analysis (CEA), cost-utility analysis (CUA) or cost-benefit analysis (CBA))
- Original articles (English and Persian languages) published in international and Iranian journals with at least one Iranian author
- Review, editorial, and methodological articles excluded

Data extraction and analysis

After agreeing on including a study, the full texts of the studies were retrieved, and a data extraction tool was developed based on the study's conceptual framework. The data was extracted on the Bibliometric base (title, the number of contributing authors, the journal title, year of publication, corresponding author's university), Clinical base (health areas, type of intervention), and economic evaluation base (CEA, CUA, CBA, using QALY or DALY, the model, and CERs).

Health areas, type of intervention

Based on the previous study by Catherine Pitt et al.[12], a health areas classification was used based on the global burden of disease (GBD) estimates (WHO, 2017), to be implementable with an electronic key term search, and to permit meaningful analysis. The UK Medical Research Council (MRC) criteria were employed to identify the intervention type which breaks down the health

interventions into seven categories and 19 subcategories[13].

- ✓ Diagnostic Tools (Imaging, Non-Imaging)
- ✓ Health and Social Care Services
- ✓ Management of Diseases and Conditions
- ✓ Preventative Intervention (Behavioral risk modification, Nutrition and Chemoprevention, Physical/Biological risk modification)
- ✓ Products with applications outside of medicine
- ✓ Support Tools (For Fundamental Research, For Medical Intervention)
- ✓ Therapeutic Interventions (Cellular and gene therapies, Drug, Medical Devices, Physical, Psychological/Behavioral, Radiotherapy, Surgery, Vaccines, and Complementary)

Authors and journals

The journals were classified into 1) biomedical, 2) health economics, services, policy, and/or social sciences and 3) the other. The language, the number of publication, and the topics were analyzed. The impact factor, author citation, most cited topic, average citations per item, and total citation were studied. The data were analyzed on the institutional affiliation of all authors to develop a comprehensive picture of the institutions contributing to health economic evaluation.

RESULTS

474 articles were resulted from all databases. Duplicate articles excluded (62 articles), out of all the complete studies that were retrieved and evaluated, 134 articles were exported to an Excel database, and were analyzed. Figure 2 shows the number of papers per year. The publication of health economic evaluation studies in Iran was started in the 1990s. Since then, there has been an upward trend with a slight increase at the end of the 2000s. This trend was sped up by the establishment of Ph.D. course in health economics; and Ph.D. students attended the study of health economic evaluation as one of their research priorities. The highest number of publication was in 2016 with 30 articles (22.4%), and approximately 70 percent of the studies have been published over the last six years.

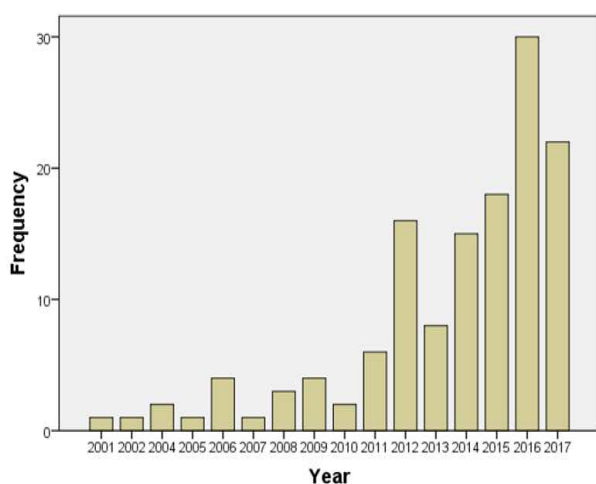


Figure 2: Number of studies

Disease focus and types of intervention

In this review, health areas and type of intervention were scrutinized. Table 1 shows the distribution of economic evaluation studies by disease category. In Iran, there have been three dominate health areas: cancer and other neoplasms with 23 (17.2%), certain infectious or parasitic diseases with 19 (14.2%), and factors influencing health status and contact with health services with 15 articles (11.2%). Only two studies investigated cardiovascular complications, which accounted for 25% of the burden of disease in Iran.

Table 1: Health areas

Health Area	Number	Percent
Cancer and Other Neoplasms	23	17.2
Cardiovascular diseases	2	1.5 %
Certain infectious or parasitic diseases	19	14.2 %

Congenital malformations, deformations and chromosomal abnormalities	4	3 %
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	12	9 %
Diseases of the circulatory system	8	6.5
Diseases of the digestive system	5	3.7 %
Diseases of the ear and mastoid process	1	0.7 %
Diseases of the eye and adnexa	2	1.5 %
Diseases of the genitourinary system	9	6.7 %
Diseases of the musculoskeletal system and connective tissue	7	5.2 %
Diseases of the nervous system	9	6.7 %
Diseases of the respiratory system	2	1.5 %
Diseases of the skin and subcutaneous tissue	2	1.5 %
Endocrine, nutritional and metabolic diseases	7	5.2 %
Factors influencing health status and contact with health services	15	11.2 %
Mental, Behavioral and Neurodevelopmental disorders	4	3 %
Pregnancy, childbirth and the puerperium	3	2.2 %

Table 2 shows that the most common type of interventions was therapeutic interventions. 51.5% (69/134 articles) of the observations were classified as therapeutic interventions, 22.3% (30/134) included the management of diseases and conditions, 9.7% (13/134) were about health and social Care services, 9% (12/134) included diagnostic tools, and 7.5% (10/134) were about preventative interventions. Finally, there was a sizeable proportion of economic evaluations (52/134, 38.9%) analyzing drugs.

Table 2: The most common type of intervention

Intervention type (number)	Subgroups
Diagnostic Tools (12) 9%	Imaging (8) 6 %
	Non imaging (4) 3 %
Therapeutic Interventions (69) 51.5 %	Drug (52) 38.9 %
	Medical Devices (5) 3.7 %
	Vaccines (9) 6.7 %
	Surgery (3) 2.2 %

Preventative Intervention (10) 7.5 %	Nutrition and Chemoprevention (7) 5.2 %
	Behavioral risk modification (3) 2.2 %
Management of Diseases and conditions (30) 22.3%	---
Health and Social Care Services (13) 9.7 %	---

Economic evaluation articles

Of the 134 reviewed studies, 105 studies were Cost-effectiveness analyses (78.4%), 22 were Cost-utility analyses (16.4%), and only 7 were Cost-benefit analyses (5.2%). The relative simplicity of the CEA approach was compared with CUA that required developing robust method to value health state preferences which might explain this.

In this research, there were marked differences among settings, both in using modeling and the models used; 68 articles used a modeling approach, among them; 35 studies were Decision Tree (26.1%), and 33 Markov model (24.6%). 85 papers (63.4%) calculated and reported incremental cost-effectiveness ratios (ICER).

Bibliometrics results

Articles count only showed the amount of an author, institution, journal or university's output and did not determine their influence on the research community. The number of citations was a commonly applied measure of the scholar impact, the assumption was that a heavily cited paper was more influential than the less cited one, and that a researcher who has authored many profoundly cited articles has been more influential among other researchers.

The number of contributing authors also differed. The mean number of contributing authors was 4 researchers (n=31 articles, 23%). In addition, the main pattern of authorship was 3-5 researchers with 72 studies (54%). In most of the studies, the first authors, affiliated to academic institutions (66.4%, 89/134), followed by research institutes (33.6%, 45/134).

Overall, 91 articles (68%) were published in biomedical rather than health economics, health management, and policy journals (29%) or other journal types (3%).

Citation information was available for 134 studies. The average number of citation counts per article was 4.5. The 10 most cited studies published in high-profile medical journals were listed by the number of citations per year in Table 3.

Table 3: Top articles citation

	Internal Citations	External Citations	Total Citations
K. Golmohammadi	9	90	99
A. Zargarzadeh	0	35	35
H. J. Au	2	23	25
A. A. Dolatabadi	7	16	23
N. Simforoosh	4	19	23
M. Rezaei	7	15	22
K. Holakouie Naieni	6	11	17
A. Rashidian	15	2	17
A. Akbari Sari	9	7	16
H. R. Rasekh	10	6	16
KiadaliriAli.ahmad	4	12	16
M. Moradi-Lakeh	7	6	13
A. Imani	5	7	12
M. Abdollahi	8	3	11
Z. Allameh	7	4	11
A. Rashidian	5	5	10
M. Moradi-Lakeh	2	8	10
M. Naghavi-Behzad	7	3	10

Of all the articles retrieved, 111 articles were published in a journal with impact factors, and 23 journals had no impact factor, and were just being indexed in Persian sites such as SID and Mag Iran. The results of the review showed that the impact factor in the health area was lower than the global average, and most of the citations were self-citations or internal citations.

59 percent of Iran's economic evaluation studies had at least one citation. Similarly, the internal citation rate was about 49.3%, and the external citation rate was about 45.5%.

Among the journals that published Iranians economic evaluation studies, the Value in Health by ISPOR¹ had the highest share of 23 titles. The 2017 journal's impact factor score was 5.4. The Medical Journal of the Islamic Republic of Iran, published by the Iran University of Medical Sciences, and Asian Pacific Journal of Cancer Prevention published 7 and 6 studies during this 20-year period; respectively. Table 4 shows the top journals in the publication of Iran's economic evaluation articles.

Table 4: List of Journals

Journal	Number of articles
Value in Health	23
Medical journal of the Islamic Republic	7

¹ International Society for Pharmacoeconomics and Outcomes Research (ISPOR)

of Iran	
Asian Pacific journal of cancer prevention	6
Archives of Iranian medicine	5
Daru: journal of Faculty of Pharmacy	5
Iranian Red Crescent medical journal	4
International journal of preventive medicine	3
International journal of technology assessment in health care	3
Global journal of health science	2
Hepatitis monthly	2
international Journal of Endocrinology and Metabolism	2
Iranian journal of cancer prevention	2
Iranian journal of pediatrics	2
Iranian Journal of Pharmaceutical Research: IJPR	2
Iranian journal of public health	2
journal of health accounting	2

The review of the language showed that most articles were published in English. Out of 134 articles, 91% (122 articles) were in English, and the rest were Persian, 71 (53%) were published in international journals, and 63 (47%) in Iranian journals.

During the 20-year period, many researchers worked on the health economic evaluation. According to the educational and research system at medical universities, many of these papers were published by famous and well-known professors. Among the corresponding authors, Shokoufeh Nikfar with 6 articles, Arash Rashidian, and Ahmad KiaDaliri, with 4 articles, had the highest number of the published articles in economic evaluation (table5).

Table 5: Corresponding authors

Corresponding author	Number of articles	Corresponding author	Number of articles
Nikfar.Shokoufeh	6	Javanbakht.Mehdi	2
Rashidian.Arash	4	Delavari.Alireza	2
Kiadaliri.Ahmad	4	Ravaghi.Hamid	2
AkbariSari.Ali	3	Askarian.Mehrdad	2
AnsariPour.amir	3	Keshavarz.Khosro	2
Imani.ali	3	Goudarzi.Reza	2
AmirSadri.Mohamadrez	3	Moradi-Lakeh.Mazyar	2
Taheri.Saeed	3	Maraci .mohamadrez	2
Aghayan.Hamidreza	2	Nakhaee.nozar	2
OlyaeManesh.AliReza	2	Hadian. Mohamad	2
Barouni.Mohsen	2	Yaghoubi.Mohsen	2

Tehran and Iran universities of medical sciences had the highest number of articles in all universities in Iran. Tehran University of Medical Sciences had the first rank with 34 articles (25.4%), followed by Iran and Shiraz Universities both with 20 articles, and Shahid Beheshti University of medical sciences with 15 articles; respectively.

To find out the pattern of pages in published studies during these 20 years, four groups (1-5, 6-10, 11-15 and over 16 pages) were determined, and the articles were ranked accordingly. Based on this ranking, the 6-10 page patterns were the most common event among Iranian researchers, with 90 articles (67.2%). The highest citation was for Kamran Golmohammadi and D. o Sin (2004) from the University of Alberta, Canada, published in the LUNG journal [14] had 90 external and 9 internal citations.

DISCUSSION

This was the first comprehensive bibliometrics study to describe the number, characteristics, and the previous and current pattern of economic evaluation studies in Iran. In recent years in Iran, as in other Middle East countries, there has been increased interest in incorporating economic evaluation as a formal tool to inform decision-making processes. In the present study, after considering the inclusion criteria and reviewing the texts, 134 articles were selected.

Health economic evaluation in Iran

In recent years, the use of economic evaluation as a tool to help decision-makers has increased. Iran, as one of the largest countries in the Middle East, has been among the leading countries in economic evaluation. With the establishment of a Ph.D. discipline in 2008, the trend of economic evaluation studies in Iran has sped up. About 70% of Iran's economic evaluation studies have been conducted over the past six years. This was consistent with the study of Pitt et al. (2016) that among the Upper-MICs; Iran with 31 economic evaluation articles was at the fourth place in Asia, and the first in the Middle East after China, Japan, and Thailand [12].

The findings of this study showed that CEA was the most prevalent (78.4%) study type for economic evaluation in Iran between 1989 and 2017. Cost-utility analysis with 16.4% was the second common technique in Iran, the fact might explain why CUA has been more labor and resource intensive than CEA.

These ratios have almost been the same in other countries. Haghparast- Bidgoli et al. (2014) in their study reported that these values were 70, 17 and 13 percent for CEA, CUA, and CBA; respectively in Iran[15]. But in Pitt et al. (2016) for Upper-MICs, these rates were 50, 44 and 6 percent for CEA, CUA, and CBA; respectively. However,

Prinja et al. (2015) in their study in India [16] reported that these ratios were 64, 30, and 6 percent near to Iran.

In the case of using the model, almost half of the studies (50.7%) used the model (26.1% decision tree and 25.6% Markov model); compared to the same study in India[16], which adopted 61 percent of the model, and Brazil[17] with 64.5 percent (42%Markov model and 24.5%decision tree), the circumstances was almost the same.

Health area and interventions in Iran

The findings of this study showed that the focus and priority of the investigations did not match to the burden of diseases in Iran. Four priorities in economic evaluation studies in Iran were: Cancer and other neoplasms, certain infectious or parasitic diseases, factors influencing health status and contact, and diseases of the blood and the immune mechanism. But according to the WHO 2017 for Iran, ten main factors were cardiovascular diseases, brain stroke, Alzheimer's, road accidents, hypertension, diabetes, chronic obstructive pulmonary disease, chronic kidney disease, gastric cancer, and congenital diseases[6]. These findings were almost similar to Pitt et al. (2016) for Upper-MICs in which the main health problems included Cancer and other neoplasms, infectious diseases (AIDS and HIV), cardiovascular disease, and diseases of the respiratory system. However, Decimoni et al. (2018) found that in Latin America, Africa, and South-East Asia, the focus of studies has been on infectious diseases, among which vaccines were the priority[17]. While in the last 20 years, only 9 economic evaluations (8%) about the vaccine were conducted in Iran. Therefore, by matching these research priorities with the burden of disease in Iran, it could be concluded that researchers have chosen research projects based on the needs of research centers rather than on the priorities and needs of the health system.

The main intervention in economic evaluation studies in Iran were:

- Therapeutic interventions were about 51.5 percent (drugs with 52 studies, vaccines with 9, and medical devices with 5 were most studies done)
- Management of diseases and health conditions with about 22.4 percent
- Health and social care services with about 10 percent

In a similar study in India (2015), the results showed that about 30 percent were about pharmaceutical studies, 26 percent were about health and social care services, 19 percent were of vaccines, and 12 percent were about management of diseases and health conditions[16].

Bibliometrics features of economic evaluation studies in Iran

Economic evaluation articles published in different journals were in Persian and English. About, 91% of the articles were in English, and 53% were published in international and 47% in national journals. International journals, with higher impact factors, and the wider audience were the priority of the researchers to publish their research studies.

Approximately 70% of papers published in non-health economics journals, and the rest were issued in journals of health economics, health policy, Pharmacoeconomics, and hospital management. These high numbers might be related to lower publication standards in medical and public health journals when compared with specialized health economic journals. Among the journals, the Value in Health had the highest share after the Medical Journal of the Islamic Republic of Iran. The third was Asia Pacific Journal of Cancer Prevention, which especially covers cancer-related articles.

Tehran and Iran universities of medical sciences have had the highest number of articles in all universities in Iran. According to Pitt et al. (2016), in the Upper-MICs; Tehran University of Medical Sciences had the second rank in economic evaluation after the University of Cape Town, South Africa.

One of the most important factors in comparison between researchers was the number of citation to their articles. The citation rate for Iranians' economic evaluation publications was about 59%, the total citations were 605, and the average citation per article was 4.5; and 68 studies had no citation. Erfanmanesh (2016) explained that the number of citation to Iranian medical articles between 2010 and 2014 was 66.9 percent [18]; Ebrahimi and Jowkar (2010) mentioned that the percentage of cited papers was 47.7% during 1997-2006[19]. But in the study of Eskrootchi et al. (2009), this value was 46.1% between 1978 and 2007[20]. The results showed that despite the upward trend, the citation rates were lower than the global average, and most of citations were self-cited or internal cited.

CONCLUSION

The results revealed that health economic evaluation papers had significant quantitative and qualitative growth, but qualitative articles with high-citation were very rare.

The number of citations to Iranian researchers was not desirable relative to the number of articles. A few journals had a good understanding of the economic evaluation, and therefore the number of articles published in these journals was less than expected. So, with introducing this important branch of health economics, the journals' editors should be able to publish more economic

evaluation studies.

The most important health problems in Iran contradicted the country's burden of disease. Collaboration should establish priority areas for future economic evaluation between the researchers and in communication with policy makers.

Consent For Publication

There were no individual person's data.

Ethics Statement

There were no human participants involved.

Author Contributions

All authors drafted the systematic review protocol, AAM, JJN, and SV conducted the search, selection of records, and data extraction. Quality appraisal was conducted by AR, SP. All authors read and approved the final manuscript.

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REFERENCES

- [1] Bazrafshan A, Mostafavi E. A Scientometric Overview of 36 Years of Scientific Productivity by Pasteur Institute of Iran in ISI SCIE. *Journal of Health Administration* 2011;14 (45):7-10.
- [2] Ahmadi HS, ali . Fathi, ladan. Citation analysis and the relation of co-authorship in the *Journal of Iranian association of arabic language and literature Iranian Association of Arabic Language and Literature* 2014;2014 Volume : 9 (29), Page:149 -170 149-170.
- [3] Sedighi M, Jalalimanesh A. Study of Research Trend in Knowledge Management Field(2001-2010) and Mapping its Structure. *Journal of Information Processing and Management* 2013;28(2),pp:363-392.
- [4] Alan P, R WG. *Bibliometrics: A Bibliography and Index. 1874-1959: 4 Knutsford Ave., Watford, Herts. WD2 4EL; 1981.*
- [5] Alavi n, parvaneh, Fakhri.marjan Bibliometric analysis translated books in sport field by 1388. *Educatioun and Evaluation* 2010; winter 1388;2(3),pp: 163-189.
- [6] Organization WH. WHO EMRO | islamic republic of iran | countries [Internet], 2018http://www.who.int/countries/irn/en/
- [7] Palesh M, Tishelman C, Fredrikson S, Jamshidi H, Tomson G, Emami A. "We noticed that suddenly the country has become full of MRI". *Policy makers' views on diffusion and use of health technologies in Iran. Health Research Policy and Systems* 2010;8:9. doi: 10.1186/1478-4505-8-9.
- [8] Fox-Rushby J. *Economic evaluation: Open University Press; 2005.*
- [9] Drummond MF, Sculpher MJ, Claxton K, Stoddart GL, Torrance GW. *Methods for the economic evaluation of health care programmes: Oxford University Press; 2015.*
- [10] Ghazizadeh.Ahmad. Cost-benefit of treating depressed patients in Kurdistan primary health care system. *Scientific Journal of Kurdistan University of Medical Sciences* 2001;5(19):14–16.
- [11] Liberati A, Altman DG, Tetzlaff J, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *PLOS Medicine* 2009;6:e1000100.
- [12] Pitt CG, C.Hanson, K. *Economic Evaluation in Global Perspective: A Bibliometric Analysis of the Recent Literature. Health Econ* 2016;25 Suppl 1:9-28. doi: 10.1002/hec.3305.
- [13] (MRC) UMRC. *MRC-outputs-outcomes-and-Impact-Report-2016-uantitative-analysis, 2017.*
- [14] Golmohammadi K, Jacobs P, Sin Do. *Economic evaluation of a community-based pulmonary rehabilitation program for chronic obstructive pulmonary disease. Lung* 2004;182(3), pp:187-196.
- [15] Haghparast-Bidgoli H, Kiadaliri AA, Skordis-Worrall J. Do economic evaluation studies inform effective healthcare resource allocation in Iran? A critical review of the literature. *Cost Effectiveness and Resource Allocation* 2014;12:15. doi: 10.1186/1478-7547-12-15.
- [16] Prinja S, Chauhan AS, Angell B, Gupta I, Jan S. A Systematic Review of the State of Economic Evaluation for Health Care in India. *Appl Health Econ Health Policy* 2015;13 (6),pp:595-613.
- [17] Decimoni TC, Leandro R, Rozman LM, et al. Systematic Review of Health Economic Evaluation Studies Developed in Brazil from 1980 to 2013. *Front Public Health* 2018;6:52. doi: 10.3389/fpubh.2018.00052
- [18] Erfanmanesh M. Investigating the International Highly Cited Papers of Iran in Medical Sciences Indexed in Scopus during 2010-2014. *Journal of Health Administration* 2017;19 (66),pp:91-101.
- [19] Ebrahimi S, Jowkar A. The situation of scientific publications of iran's universities of medical science on the basis of scientometrics qualitative and quantitative indicators 1997-2006. *Health Information Management* 2010;7 (3),pp:270-282.
- [20] Eskrootchi R, Hassanzadeh H, Gohari M, Jamshidi R. Trend of Iranians' Scientific Papers in Medical Fields in 1978-2007. *Journal of Health Administration* 2009;12(37),pp:29-38.