

ORIGINAL ARTICLE

Scientometric Study of Theses in the Field of the History of Medical Sciences in Iran

Abstract

Scientometric studies play a crucial role in managing research resources, enhancing productivity, and improving the quality of research. This study aims to investigate the scientometrics of theses in the field of the history of medical sciences published in Iran between 2013 and the end of 2022. The present study is an applied research project that was conducted using the quantitative content analysis method. The statistical population of the study consisted of 125 thesis titles published in Iranian medical universities. The research data were collected using a checklist tool and analyzed using descriptive statistics. The research findings show that Tehran (20.8%), Iran (15.2%), and Arak (13.6%) universities of medical sciences had the largest share in producing theses in this field. Most theses were written in 1401 (19.2 %) while the lowest was in 1399 (4.8 %). In terms of gender distribution, 37.6 % of students were male and 62.4 % were female. Structurally, 46.4 % (58 titles) of theses had structured abstracts while 52.8 % (66 titles) had unstructured abstracts. The most active supervisor was Mohammad Reza Rajab Nejad with 28 theses, and the most active advisor was Arman Zargaran with 9 theses. Traditional medicine PhD professors had the largest share in supervising, advising, and evaluating theses. The results of this study indicate the concentration of scientific production in some particular universities and the prominent role of traditional medicine PhD professors in this field. Additionally, the increase in the production of these in recent years and the predominance of female students in this field are notable trends.

Key words: Scientometrics, Content Analysis, Thesis, History of Medical Sciences, Students, Universities, Iran

Received: 29 Oct 2024; Accepted: 26 Apr 2025; Online published: 1 Nov 2025
Research on History of Medicine/ 2025 Nov; 14(4): 319-336.

Copyright: © Journal of Research on History of Medicine. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 Unported License, (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited non-commercially.

Zahra Aghabeiglouei (Ph.D.)^{1,2} 
Roshanak Saghebi (Ph.D.)³
Jamal Rezaei Orimi (M.Sc.)^{4,5}
Morteza Mojahedi (Ph.D.)⁶
Seyyed Amir Hosein Latifi (Ph.D.)⁷
Mehdi Salehi (Ph.D.)⁷
Seyed Abdollah Mahmoodi (Ph.D.)⁷ 

- 1- Traditional Medicine Clinical Trial Research Center, Shahed University, Tehran, Iran
- 2- Department of Traditional Medicine, School of Persian Medicine, Shahed University, Tehran, Iran
- 3- Traditional Medicine and History of Medical Sciences Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran
- 4- Research Center for Traditional Medicine and History of Medical Sciences, Mazandaran University of Medical Sciences, Sari, Iran
- 5- Pre-hospital emergency medical services and disaster management center, Mazandaran University of Medical Sciences, Sari, Iran
- 6- Mizaj Health Research Institute (MHRI), Tehran, Iran
- 7- Traditional and Complementary Medicine Research Center (TCMRC), Arak University of Medical Sciences, Arak, Iran

Correspondence:

Seyed Abdollah Mahmoodi
Traditional and Complementary Medicine Research Center (TCMRC), Arak University of Medical Sciences, Arak, Iran
e-mail: seyed.mahmoodi1885@gmail.com

Citation:

Aghabeiglouei, Z., Saghebi, R., Rezaei Orimi, J., Mojahedi, M., Latifi, S.A.H., Salehi, M., and Mahmoodi, S.A., 2025. Scientometric Study of Theses in the Field of the History of Medical Sciences in Iran. *Res Hist Med*, 14(4), pp. 319-336. doi: 10.30476/rhm.2025.104595.1251.



Introduction

The scientific progress of any country relies on the research of its scholars. The higher the quantity and quality of a country's research, the higher its scientific rank and degree (Asanov, et al., 2024). Theses are considered a type of valuable scientific research that plays an important role in the scientific progress of any society due to their nature and specific characteristics. Basically, a thesis is the result of a systematic and principled study of an important issue that clearly identifies problems, raises important hypotheses, refers to sources of information, analyzes the information obtained, and finally reaches a conclusion and offers some recommendations (Nobakht, 2021; Soldatov, et al., 2023).

These important sources of information are among the first systematic and anticipated research achievements of students, not driven by business outcomes. In addition, students act on the basis of personal preferences, work experience, and current issues in choosing a topic. Therefore, examining their content can be a good tool for considering current issues and trends. Also, it shows changes that have occurred in various fields. All of the data from these theses, by themselves and in comparison with data from other sources, can provide new information that is very important in terms of scientific and managerial outcomes. Such information is obtained from sorting, categorizing, prioritizing, associating data, and forming them into new and integrated patterns (Nobakht, 2021).

The History of Medical Sciences, as an emerging trend in Iranian universities, has received considerable attention in the last decade. The main goal of this field is to train specialists who explore the developments of medical sciences by using historical research methods over time. Graduates of this field will be able to analyze the social, cultural, economic, and political factors affecting the development of medical sciences, gain a deeper understanding of the current state of this field, and present a clear vision of its future trajectory. At the Master's level, the curriculum familiarizes students with the theoretical foundations and methodology of research in the History of Medicine. However, the doctoral program offers the opportunity to conduct specialized and in-depth research in this area. The strategic importance of this field is in its ability to create a link between the past and present of medical knowledge, identifying the historical roots of existing issues and problems, and applying historical experiences to improve the health system and medical education (Aghabeiglooei, et al., 2025; Rezaei Orimi, et al., 2025, pp. 14-43).

Research in the field of the History of Medical Sciences plays a pivotal role in advancing our knowledge and understanding of scientific developments in the field of health. It is important to direct this research correctly towards topics that have the greatest potential to answer fundamental questions and challenges of the contemporary era (Azizi, 2010). A substantial body of research in this field is presented to the scientific community through student theses. These valuable works, as the result of independent research efforts, not only add to the richness of the scientific literature in this field but also serve as a rich source for various applications, such as improving educational processes, designing prospective research, formulating macro health policies, and strategic planning in this field (Zargaran, 2019).

Therefore, it is necessary to identify, examine, and analyze the various dimensions of these theses, including subject areas, interdisciplinary engagement, the contribution of each university and educational center, and methodological approaches used in the production of these theses. Accordingly, the quantity and quality of the topics, the weaknesses and shortcomings, as well as the research requirements can be evaluated, and



more effective steps can be taken by planning and presenting effective solutions to deepen scholarly rigor and promote the practical application of thesis research in this field (Cohen and Morrison, 2007; Jones, Wahab, and Hejden, 2007).

Therefore, it is expected that the present study is the first comprehensive study on the process of producing theses in the field of History of Medical Sciences in Iran. The results of this study can inform students and researchers about the current status of theses in the field of History of Medical Sciences in universities and educational centers. Also, it can help them in choosing a topic and ultimately improve the status of thesis writing. The findings of this study can depict research activities in this field and identify significant yet overlooked topics.

Based on the review of the literature conducted, most of the scientometric studies performed on the subject of content analysis in Iran have examined the content of theses in various fields, and few have specifically examined theses in the field of History of Medical Sciences as an independent form of scientific production. The following are some of the studies related to this article.

Amiri et al. (2023) examined and evaluated the Master's theses of the Faculty of Social Sciences and Education of Razi University based on the criteria of scientific writing principles. According to the findings, the number of theses written by female students was higher than that by male students. The highest number of theses were completed in 2017. The Department of Economics and General Psychology had the highest output among all departments. (Amiri, Rahimi, and Heidari, 2023).

In another study, Nobakht (2018) evaluated the scientometrics of theses in the field of Islamic economics in Iran. Examining the gender of students who wrote these theses in the field of Islamic economics revealed that out of 215 doctoral theses, 198 were written by males (98 %), with the rest written by females. Also, the field of economic sciences, with 56 dissertation titles, ranked first, the field of Islamic sciences, with 42 dissertation titles, ranked second, and the field of jurisprudence and foundations of Islamic law, with 32 dissertation titles, ranked third. They produced the highest number of theses in the field of Islamic economics (Nobakht, 2021).

In addition, Nobakht (2019) investigated these theses in another study titled "*Scientometric Study of Islamic Finance Thesis in Iran*" between 1993 and 2015. His research results show that 153 theses were published in this field in Iran. Imam Sadeq University produced the largest number of theses. Analysis of the research methods revealed that the descriptive-analytical method, employing a jurisprudential approach, was the most common. In terms of disciplinary contribution, the highest number of theses were produced in Islamic Sciences, Jurisprudence and Foundations of Islamic Law, Private Law, and Economic Sciences. (Nobakht, 2019).

Sarparast Sadat et al. (2017) analyzed the Master's theses in the field of Islamic political thought at Allameh Tabatabaei University, employing a survey method, from 2005 to 2014. The findings showed that the highest frequency percentage occurred in 2011, while the lowest frequency percentage was observed in 2008 and 2010. The most frequently used research method was the descriptive-analytical method (48.28 %), and the most frequently used method was library data collection (32.56 %). Also, 43 % of the theses did not match the field and examiner of the supervisor (Sarparast Sadat, Zandi, and Veisi, 2017).

Ghasemi (2014) examined the methodology of theses in the field of physical education



at Payam Noor University. The results showed that the most research methods used in these theses were descriptive in terms of strategy (76.2%), survey in terms of implementation (44.3%), and applied in terms of purpose (100%). The research tools were questionnaires and tests (Ghasemi, 2014).

Asefzadeh et al. (2008) studied these theses from 2001 to 2006 in a study titled "*Evaluation of Specialized Medical Theses at Qazvin University of Medical Sciences*". The results show that 59 theses were published in this field, of which 21 were written by females and 38 by males. Most of the theses (35.6%) were written in the field of anesthesia, employing the experimental method (55.9%) for clinical trials. Furthermore, the distribution of supervision showed that 45.7% of the theses (27 theses) had one supervisor, followed by two supervisors (37.3%), while a three-supervisor arrangement was rare (1.7%). (Asefzadeh, et al., 2008).

Seydin and Babalhavaeji (2008) conducted a content analysis study on Master's theses in library and Information Science at Islamic Azad University, North Tehran, Tehran Science and Research, Ahvaz Science and Research, and Hamadan branches, between 1993 and 2007. They reported that 72.4 % of the theses employed survey methods. The most commonly used data collection tools in the theses under study were questionnaires, and descriptive statistics were the most commonly used statistical methods. Descriptive methods, including descriptive-analytical methods, were used 4.3 % in the theses, followed by library methods (11.1 %), while citation analysis methods (3.5 %), content analysis methods (4.2 %), and system design methods (4.5 %) were used less frequently. The study also noted that female students authored twice as many theses as their male counterparts. (Seyedin, and Babalhavaeji, 2009).

A systematic review of the research literature shows that although several studies have examined postgraduate theses with a scientometric approach, none of these studies have specifically analyzed theses in the field of History of Medical Sciences in Iran. This research gap is especially evident in the examination of key components such as the historical trend of publication, gender patterns of researchers and supervisors, and structural analysis of abstracts. This study aims to fill that knowledge gap through a comprehensive scientometric analysis of Iranian theses in the History of Medical Sciences. Thus, considering the theoretical foundations and research background, the following questions have been raised and tested.

Question 1: What is the frequency distribution of theses in the field of History of Medical Sciences by year of writing?

Question 2: What was the share of each university and educational center in the production of theses?

Question 3: What is the frequency distribution of the gender of the authors of theses?

Question 4: Who was most responsible for guiding and supervising theses?

Question 5: Who was most responsible for advising theses?

Question 6: What is the frequency distribution of the academic field of the supervisors in the production of theses?

Question 7: What is the frequency distribution of the academic field of the advisors in the production of theses?

Question 8: What is the frequency distribution of the academic field of the referees in the production of theses?

Question 9: What was the share of each academic level in the production of theses?



Question 10: What is the structure and number of words through the abstracts of theses?

Methods

This is an applied study conducted by using the quantitative content analysis method. The statistical population of the study included all theses in the field of History of Medical Sciences at the Master's and doctoral levels in the medical universities of the country (Tehran, Shahid Beheshti, Iran, Shahed, Arak, Qom, Tabriz, Babol, and Mazandaran Universities of Medical Sciences) from 2013 to the end of March 2022. It should be noted that all theses included in this study were registered in the relevant universities after official approval and successful defense. The data used in this study were obtained using information available in the Iran Institute of Science and Information Technology or IranDoc system (affiliated with the Ministry of Science, Research, and Technology), the Iranian New Medical Research Information System or Nopa (affiliated with the Ministry of Health, Treatment, and Medical Education), and the portal of the central libraries of the Iranian medical universities. In the search of the aforementioned systems, the key phrases such as: "*history of medical sciences*", "*history of medicine*", "*Iranian medicine*", "*thesis*", the names of the students, and universities in question were used. Also, in order to obtain some of the theses that were not available in their entirety in the above systems, correspondence was conducted with the heads of the History of Medical Sciences departments of the universities in question. After collecting the theses, each was analyzed based on the title, abstract, keywords, year of defense, and the characteristics of the supervisors, advisors, and examiners. Appropriate tables and graphs were designed and drawn, and the data were analyzed using descriptive statistics. One of the main challenges in conducting this research was the limitations of access to complete and up-to-date data. Given that much of the required data was extracted from IranDoc, Nopa, and the portals of the central libraries of medical universities, several structural problems were identified in these databases that affected the quality and quantity of the collected data. These problems include the lack of continuous updating of information, the lack of comprehensiveness of data, and the lack of standardization in data recording. This is evidenced by the absence of complete data from leading medical universities within the national databases. Additionally, essential metadata for numerous theses, including defense dates, the names of supervisors and advisors, and abstracts, were either incomplete or ambiguous.

Findings

The field of the History of Medical Sciences examines the developments in medical science throughout history. This field of study has a relatively recent history in Iran, and in recent years, we have witnessed its growth and development, with numerous theses written on this subject. Research in the History of Medicine demonstrates that the topic of health promotion (and more broadly, the position of overarching concepts such as the national health and treatment system) has held significant importance for managers and leaders in society over time. The concept of health promotion has been increasingly integrated into everyday life as a necessary aspect. Research in the History of Medicine can reflect some of the issues related to health promotion in the country, provide solutions for certain problems, or at least discuss some concerns and issues from a historical perspective. This historical viewpoint can enable theorists addressing health promotion issues in the country to propose more appropriate solutions for various health promotion



challenges (Ghassemlou, 2022).

Based on the present study conducted over 10 years from 2013 to the end of March 2023, a total of 125 theses in the field of the History of Medical Sciences (124 Master's theses and 1 doctoral dissertation) from 9 medical universities across the country were studied.

The first research question addresses the frequency distribution of theses in the field of History of Medical Sciences by year of writing, as shown in Table 1. An examination of the frequency distribution shows that the first theses in the History of Medical Sciences were written in 2016, three years after the first student cohort was admitted in 2013. The number of theses peaked in 2022 with 24 titles (19.2%), followed by 2017 (18.4%), 2018 (16.8%), and 2019 (16%). The lowest output occurred in 2019, with only 4.8% of theses. The average annual output was 17.8 theses (Table 1).

Table 1: Frequency Distribution of Theses in the Field of History of Medical Sciences by Year of Writing

Public year	Arak	Iran	Babol	Tabriz	Tehran	Shahed	Shahid Beheshti	Qom	Mazandaran	Total data	percent
2016	3	3	-	-	2	6	-	-	4	18	15.2%
2017	3	3	2	2	3	2	3	-	4	22	18.4%
2018	2	5	3	2	5	1	1	-	2	21	16.8%
2019	3	1	2	3	6	1	-	1	3	20	16%
2020	-	-	1	1	2	1	-	-	-	5	4.8%
2021	3	6	1	-	3	-	1	-	1	15	16.8%
2022	3	1	-	5	4	1	-	9	1 *	24	19.2%

*History of medical science

The second research question is dedicated to examining the role of each university and educational center in producing theses, and Table 2 shows the share of each of these centers in writing theses. The findings showed that the largest number of theses was allocated to Tehran University of Medical Sciences (20.8 %), Iran University of Medical Sciences (15.2 %), and Arak University of Medical Sciences (13.6 %), respectively. Mazandaran University of Medical Sciences (12.8 %), Tabriz University of Medical Sciences (10.4 %), Shahed University (8 %), Qom University of Medical Sciences (8 %), Babol University (7.2 %), and Shahid Beheshti University (4 %) were in the next ranks (Figure 1).

The third research question is dedicated to examining the frequency distribution of the gender of researchers and professors, and Table 2 shows the share of each in writing theses. In terms of the gender distribution of students, 37.6 % (47 people) were male students and 62.4 % (78 people) were female students. Also, 89.93 % (143 people) of supervisors were male, and 10.07 % (16 people) of supervisors were female. 77.46 % (110 people) of advisors were male, and 22.54 % (32 people) of advisors were female. 87.12 % (115 people) of examiners were male, and 12.88 % (17 people) of examiners



were female.

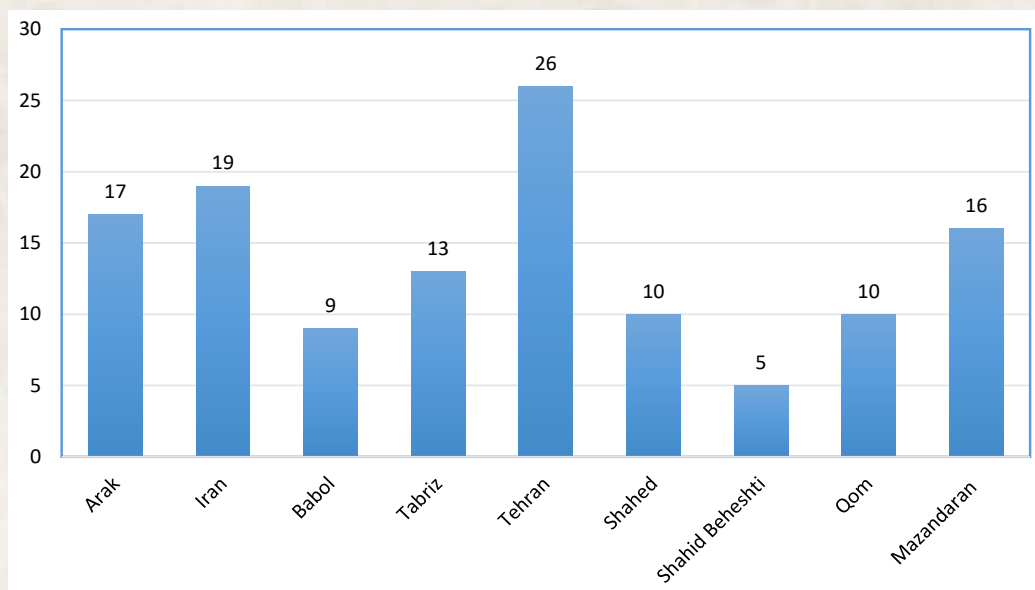


Figure 1. Frequency Distribution of Theses in the Field of History of Medical Sciences by Medical Universities in the Country

Table 2: Frequency Distribution of the Gender of Researchers and Professors of Scientific Productions of the Statistical Population of the Research

	Variable	Gender	Frequency	Frequency Percentage
1	Student	M	47	37.6%
		F	78	62.4%
2	Supervisor	M	143	89.93%
		F	16	10.07%
3	Advisor	M	110	77.46%
		F	32	22.54%
4	Examiner	M	115	87.12%
		F	17	12.88%

The fourth research question is dedicated to examining the professors who have been most responsible for supervising theses. Table 3 shows their frequency distribution. Mohammadreza Rajabnejad is in first place with 28 thesis titles, Arman Zargarani is in second place with 11 thesis titles, and Saeed Chengiz Ashtiani is in third place with 6 thesis titles. In total, 159 people participated in supervising these theses. Also, 64.8 % of the theses (81 theses) had one supervisor and 35.2 % (44 theses) had two supervisors.

The fifth research question is dedicated to examining the professors who have been most responsible for advising theses. Table 4 shows their frequency distribution. Arman Zargarani is ranked first with 9 theses, Mohammad Reza Rajabnejad is ranked second with 8 theses, and Mohammad Mehdi Esfahani is ranked third with 7 theses. In total, 142 people participated in advising these theses. The results show that 46.4 % of theses (58



theses) had one advisor, 31.2 % (39 theses) had two advisors, and 2.4 % (3 theses) had three advisors. Also, 20 % of theses (25 theses) did not have an advisor.

Table 3: Ranking of Supervisors of Scientific Productions in the Research Statistical Population

No.	Advisor	Affiliated organization	Number of Theses Advised	Frequency percentage
1	Mohamad Reza Rajabnejad	Iran University of Medical Sciences	28	22.4%
2	Arman Zargaran	Tehran University of Medical Sciences	11	8.8%
3	Saeed Changizashiani	Arak University of Medical Sciences	6	4.8%
4	Reza Mohammadinasab	Tabriz University of Medical Sciences	5	4%
5	Mehrdad Karimi	Tehran University of Medical Sciences	5	4%
6	Seyed Ali Mozaffarpour	Babol University of Medical Sciences	5	4%
7	Mohammad Hosein Ayati	Tehran University of Medical Sciences	5	4%
8	Hasan Syamian	Mazandaran University of Medical Sciences	5	4%
9	Hasan Namdar	Shahed University	4	3.2%
10	Amir Hosein Lotfi	Arak University of Medical Sciences	4	3.2%
11	Mahdi Salehi	Arak University of Medical Sciences	4	3.2%
12	Asyeh Jokar	Mazandaran University of Medical Sciences	4	3.2%
13	other	Universities and educational centers	≥ 3	31.2%
Total			125	

The sixth research question is dedicated to examining the educational field of the supervisors in the production of theses (Table 5). In this study, the supervisors were from 34 different educational fields. Therefore, 28.30% (45 cases) had a doctorate in traditional medicine, 23.89% (38 cases) had a doctorate in the history of Islamic civilization and nations, 17.8 % (13 cases) had a doctorate in traditional pharmacy, 66.5% (9 cases) had a doctorate in physiology, 40.4% (7 cases) were specialists in pharmacognosy, and 77.3% (6 cases) had a doctorate in jurisprudence and Islamic law. (Table 5)

The seventh research question is dedicated to examining the educational field of the advisors in the production of theses as shown in Table 6. In this study, the advisors came from 43 different educational fields. 25.35% (36 cases) had a doctorate in traditional medicine, 8.45% (12 cases) had a doctorate in traditional pharmacy, 6.33% (9 cases) had a doctorate in Persian language and literature, 5.63% (8 cases) had a doctorate in the history of Islamic civilization and nations, 5.63% (8 cases) had a doctorate in the history of science, and 4.22% (6 cases) had a doctorate in nutrition and health sciences. (Table 6)

The eighth research question is dedicated to examining the academic fields of examiners in the production of theses, as shown in Table 7. The total number of examiners in 101 theses was 132 from 31 academic fields. The examiner was anonymous in 27 theses. 31.81% (42 cases) had a Ph.D. in traditional medicine, 7.57% (10 cases) had a Ph.D. in medical history, 6.81% (9 cases) had a clinical science specialist, 5.30% (7 cases) had a Ph.D. in Islamic jurisprudence and fundamentals of Islamic law, 4.54% (6 cases) had a Ph.D. in traditional pharmacy, 4.54% (6 cases) had a Ph.D. in the history of Islamic

civilization and nations, 3.78% (5 cases) had a master's degree in revolution and history, and 3.78% (5 cases) had a Ph.D. in nutritional sciences. (Table 7)

Table 4: Ranking of Professors Advising Scientific Production in the Research Statistical Population

No.	Advisor	Affiliated organization	Number of Theses Advised	Frequency percentage
1	Arman Zargarani	Tehran University of Medical Sciences	9	7.2%
2	Mohammad Reza Rajabnejad	Iran University of Medical Sciences	8	6.4%
3	Mohammad Mahdi Esfahani	Tehran University of Medical Sciences	7	5.6%
4	Mohsen Bagbani	Tehran University of Medical Sciences	6	4.8%
5	Farid Gasemlou	Encyclopaedia of the World of Islam	5	4%
6	Hasan Syamian	Mazandaran University of Medical Sciences	4	3.2%
7	Mahdi Salehi	Arak University of Medical Sciences	4	3.2%
8	Mostafa Moalemi	Mazandaran University of Medical Sciences	4	3.2%
9	Majid Khalili	Tabriz University of Medical Sciences	4	3.2%
10	Kazem Khodadost	Tabriz University of Medical Sciences	4	3.2%
11	Seyed Abdoallah Mahmoudi	Arak University of Medical Sciences	4	3.2%
12	Alireza Golshani	Shiraz University of Medical Sciences	4	3.2%
13	other	Universities and educational centers	≥ 3	49.6%
Total			125	

Table 5: Frequency Distribution of Academic Fields of Advisors in the History of Medical Sciences

No.	Field of Study	Number	Frequency Percentage
1	Ph.D. in Traditional Medicine	45	28.30%
2	Ph.D. in History and Civilization of the Islamic Nations	38	23.89%
3	Ph.D. in Traditional Pharmacy	13	8.17%
4	Ph.D. in Physiology	9	5.66%
5	Pharmacognosy Specialist	7	4.40%
6	Ph.D. in Islamic Jurisprudence and Fundamentals of Law	6	3.77%
7	Ph.D. in Medical Library and Information Science	5	3.14%
8	Nephrologist	4	2.51%
9	Master of Islamic Studies program	3	1.88%
10	Ph.D. in Biochemistry	3	1.88%
11	other	≥ 2	16.35%



Table 6: Frequency Distribution of Academic Fields of Advisors in the History of Medical Sciences

No.	Field of Advisors	Number	Frequency Percentage
1	Ph.D. in Traditional Medicine	36	25.35%
2	Ph.D. in Traditional Pharmacy	12	8.45%
3	Ph.D. in Persian Language and Literature	9	6.33%
4	Ph.D. in History and Civilization of the Islamic Nations	8	5.63%
5	Ph.D. in History of Science	8	5.63%
6	Ph.D. in Nutrition and Diet Therapy	6	4.22%
7	Ph.D. in History of science and technology	4	2.81%
8	Ph.D. in Pharmacognosy	4	2.81%
9	Health Education and Health Promotion	3	2.11%
10	Ph.D. in Arabic Language and Literature	3	2.11%
11	Ph.D. in the History of Iran after Islam	3	2.11%
12	Ph.D. in History of Ancient Iran	3	2.11%
13	Medical Library and Information Science	3	2.11%
14	other	≥ 2	28.16%

Table 7: Frequency Distribution of Academic Fields of Examining in the History of Medical Sciences

No.	Field of Examining	Number	Frequency Percentage
1	Ph.D. in Traditional Medicine	42	31.81%
2	Ph.D. in History of Medicine	10	7.57%
3	Clinical Scientist	9	6.81%
4	Ph.D. in Islamic Jurisprudence and Fundamentals of Law	7	5.30%
5	Ph.D. in Traditional Pharmacy	6	4.54%
6	Ph.D. in History and Civilization of the Islamic Nations	6	4.54%
7	M.S. in Revolution and History	5	3.78%
8	Nutritionist	5	3.78%
9	Ph.D. by Research in Pharmaceutical Sciences	4	3.03%
10	Ph.D. in Persian Language and Literature	4	3.03%
11	M.S. in Islamic Studies	3	2.27%
12	Ph.D. in physiology	3	2.27%
13	other	≥ 2	21.21%

The ninth research question is dedicated to examining the level of participation of each academic level, including professors, associate professors, and assistant professors of universities and educational institutions, in the production of theses, and Table 8 shows their statistical data. The data in Table 8 indicates that among the faculty members, assistant professors have been most responsible for guiding, advising, and judging theses. It should be noted that some theses had more than one supervisor and advisor, which is



why the number of professors is greater than the number of theses.

Table 8: Frequency of Academic Rank of Supervisors, Advisors, and Referees of Scientific Productions in the Statistical Population of the Research

	Variable	Frequency	Frequency Percentage
Supervisors' scientific rank	Assistant professor	68	42.76%
	Associate professor	64	40.25%
	Professor	11	6.91%
	Instructor	11	6.91%
	Anonymous	5	3.14%
Advisors' scientific rank	Assistant professor	84	59.15%
	Associate professor	44	30.98%
	Professor	5	3.52%
	Instructor	8	5.63%
	Post doctor	1	0.70%
Examiners' scientific rank	Assistant professor	71	53.78%
	Associate professor	34	25.75%
	Professor	3	2.27%
	Instructor	6	4.54%
	Anonymous	18	13.63%

The tenth research question was dedicated to examining the abstracts of theses in terms of structure and number of words. In terms of structure, 46.4 % (58 titles) of theses had a structured abstract (containing the introduction and purpose, method, findings, and results separately) and 52.8 % (66 titles) had an unstructured abstract. The abstracts were also evaluated in terms of word count. Abstracts containing 250 to 350 words were the most common, representing 38.4% of Persian abstracts and 25.6% of English abstracts. (Table 9)

Discussion and Conclusion

Researchers conduct research in different fields every year and present their research findings in scientific journals, conferences, and symposiums both domestically and internationally. A large volume of academic research is presented in the form of theses, and many research articles are derived from theses (Nave Ebrahim, and Mansorin, 2015). A thesis is a foundational component of student learning, providing a critical opportunity to practice, integrate, and complete their prior education. The thesis is important for several reasons: First, the thesis process imparts essential knowledge, skills, and research methodologies to the students. Therefore, establishing an appropriate and uniform framework for this educational activity is essential. In other words, each thesis is considered a model for other students who reference it within the conventional structure of the university. Therefore, this study attempted to identify, review, and analyze the information content of theses in the field of History of Medical Sciences in Iran. It is hoped that this study will uncover the weaknesses in the most important thesis topics and identify related research needs in the field (Taghvaei Yazdi, 2021).



Table 9: Frequency Distribution of the Number of Words in Persian and English Abstracts of Theses in the Field of History of Medical Sciences

No.	Abstracts	Persian Thesis	Percentage	English Thesis	Percentage
1	Less than 250 words	25	20%	21	16.8%
2	250 to 350 words	48	38.4%	32	25.6%
3	350 to 500 words	31	24.8%	27	21.6%
4	500 to 750 words	10	8%	6	4.8%
5	More than 750 words	10	8%	3	2.4%
6	No abstract	1	0.8%	36	28.8%
7	total	125	100%	125	100%

Scientometrics is a branch of library science that plays an important role in managing research resources, improving productivity, and enhancing the quality of research. Considering the aim of measuring and analyzing scientific research activities, this science provides the opportunity to quantitatively and qualitatively evaluate scientific productions, identify research trends, determine research priorities, and evaluate the effectiveness of scientific policies. In simpler terms, scientometrics is a tool for measuring and evaluating scientific knowledge and activities to improve research decision-making and planning. Using statistical methods and software tools, scientometrics provides the opportunity to quantitatively examine scientific outputs, especially research articles, and thus helps to better understand the current state of research and identify its strengths and weaknesses (Shahrokhi Sardo, Salajegheh, and Soleimani, 2024; Chang, Huang, and Lin, 2015). Moreover, today, scientometrics is widely used in describing, explaining, and predicting the scientific status of researchers, scientific groups, universities, organizations, and countries in various national and international contexts. In addition, scientometrics plays an important and fundamental role in allocating credit, balancing budgets with costs, and promoting institutions through the assessment of priorities, prospects, and capacities (Farokhizadeh, et al., 2024).

A study of defended theses in the History of Medical Sciences in Iran found that out of 125 theses, the highest number were defended in 2022 (24 theses, 19.2%). The following years—2017 (22 theses, 18.4%), 2018 (21 theses, 16.8%), and 2019 (20 theses, 16%)—were the next most productive. Also, the year 2020 had the lowest number of theses. The present study showed that the trend of producing theses in this field has fluctuated over different years. In the early years, most theses were written at Mazandaran University of Medical Sciences and Shahed University (40 % of all theses), but in recent years (2022), most theses have been written at Qom, Tehran, and Iran Universities of Medical Sciences (59 %) (Table and Figure 1). This change in the spatial distribution of thesis production can be related to various factors, including changes in student admission policies, economic conditions, and the spread of the coronavirus. For example, one reason for the decrease in the number of theses in 2020 can be attributed to the spread of the coronavirus and the closure of universities and educational centers. This led to the lack of physical presence of professors and students, disruption in educational activities, and decreased student motivation and quality. Financial problems (such as a reduction in research bud-



gets and income of faculty members), limited participation in international conferences, limited access to international scientific databases, and delays in implementing research projects have also caused a decrease in scientific production in universities during the coronavirus era (Rabbikhah, Khanbabaie, and Zaker Salehi, 2020). One reason for the high productivity of Mazandaran University of Medical Sciences in the early years was its admission of 17 History of Medical Sciences students (14 master's and 3 specialized doctoral students) between 2013 and 2015. About 21.42% of the theses written in 2016 and 2017 were done by students of Mazandaran University of Medical Sciences.

The analysis of thesis topics showed that the largest number of theses were related to traditional medicine and traditional pharmacy. This section of the research findings is consistent with the findings of Varnaseri et al. (2022). In the aforementioned study, the analysis of the scientific outputs of Iranian scientists in the field of traditional medicine on the Web of Science database showed that traditional medicine was ranked first with a frequency of 269 cases. The studies of Kasiri et al. (2018) and Hodhodinezhad et al. (2012) indicate an increase in scientific production in the field of traditional medicine, which is in line with the present study. The study of Moradi Lakeh et al. revealed that a rising trend in thesis research on traditional medicine in recent years (Moradi Lakeh, Goushegir, and Amini, 2008). Furthermore, in the study of Baradaran Eftekhari and Falahat, the most important research topics were *"lifestyle reform based on traditional and Iranian medicine, production of herbal products based on traditional medicine, health rights"* (Baradaran Eftekhari, and Falahat, 2024). However, these results contrast with Moeini et al., who focus more on aspects of the history of Iranian medicine, including biographies of physicians and scientists of Islamic civilization and the historical development of diagnosis and treatment methods in authentic texts of traditional Iranian medicine (Moeini, et al., 2017).

Analysis of the results of the research conducted shows an increasing tendency of students of medical universities in Iran towards traditional medicine and complementary medicine topics in recent years. The significant increase in the number of theses related to this field indicates that students are seeking to explore and search for complementary and alternative treatment methods. This tendency can be related to various factors, including increasing public awareness of the benefits of traditional medicine and herbal medicines, the increasing demand of society and people for natural treatments, and changes in the curriculum of medical universities and research centers (Bahrami Taqanaki, et al., 2019; Moradi Lakeh, Goushegir, and Amini, 2008; Naghibi Harat, et al., 2008; Parvinroo, et al., 2021).

While examining the gender of students who wrote their theses in the field of History of Medical Sciences, it was found that out of 125 theses in total, written by master's and doctoral students, 78 were female (62.4%) and 47 were male (37.6%). This part of the research findings is consistent with the results of the research of Nave Ebrahim and Mansorin, Amiri et al., and Seyedin and Babalhavaeji (Seyedin, and Babalhavaeji, 2009; Amiri, Rahimi, and Heidari, 2023). In their study, Seyedin and Babalhavaeji mentioned that the number of theses written by females was twice that of males. In contrast, the research conducted by Banitalebi Dehkordi, Asefzadeh et al., and Nobakht reported male participation rates of 75%, 64.41%, and 98%, respectively, which do not match the present findings (Asefzadeh, et al., 2008; Nobakht, 2021; Banitalebi Dehkordi, 2016). Also, the results of the research of Rezakhani Moghadam et al. (2011) found that about 53.5 %



of the health education theses from Tehran, Tarbiat Modares, and Iran Medical Sciences Universities between 1960 and 2000 were written by males (Rezakhani Moghadam, et al., 2011).

Understanding the relative dominance of female students in the History of Medical Sciences requires a closer examination of the sociological and motivational factors that influence students' decisions to choose this field. One possibility is that the field of history is generally more attractive to females, possibly because of its focus on narrative, cultural, and social analysis, as well as its connection to the humanities within medical science. In addition, gender stereotypes about careers in medical sciences and history might affect students' field choices, with some females linking the field to specific career opportunities. Also, educational structures and learning environments in the field may be subconsciously perceived as more favorable to females, offering more positive experiences (Hill, Corbett, and St. Rose, 2010; Rippon, 2020). However, without further qualitative research that examines students' motivations, experiences, and perspectives, it will be difficult to draw any definitive conclusions. This finding could serve as a foundation for future research in the sociology of science and gender studies in higher education.

Examining the contribution of each university and educational institution to the production of theses, the findings of the study showed that Tehran University of Medical Sciences ranked first with 26 dissertation titles (20.8 %), Iran University of Medical Sciences ranked second with 19 dissertation titles (15.2 %), and Arak University of Medical Sciences ranked third with 17 dissertation titles (13.6 %). This part of the research findings aligns with the results of the following studies conducted by Kasiri et al. (2018), Varnaseri et al. (2022), Hodhodinezhad et al. (2012), and Ebrahimi et al. (2024). The results of the study by Ebrahimi et al. (2024), which examined master's theses in the field of health information technology in Iran, show that the highest number of theses was from Tehran University of Medical Sciences with 84 cases (18 %). However, the results of this study are not consistent with the findings of Nobakht, who examined the scientometrics of Islamic Economics dissertations in Iran. In the study in question, Imam Sadeq University (AS) ranked first with 45 thesis titles, Qom Seminary ranked second with 41 thesis titles, and Allameh Tabatabaei University ranked third with 16 thesis titles (Nobakht, 2021). Hazeri et al. (2017) examined the contribution of different universities in producing articles extracted from master's theses in information science and knowledge studies in Iran. They found that Tehran Azad University of Science and Research Branch, North Tehran Azad University, Ferdowsi University of Mashhad, and the University of Tehran produced the most articles from theses in this field.

The significant focus on the production of theses in the field of Medical History at Tehran University of Medical Sciences can be attributed to several factors. First, the long history of the university as one of the oldest and most prestigious centers of higher medical education in Iran has created a stronger research infrastructure over time, fostering the formation of more specialized educational and research groups in the field of medical history (Nadim, 2015). Second, the presence of prominent and knowledgeable professors with rich research backgrounds in this field has made this university an attractive scientific center for students interested in research in the History of Medicine. Third, it is likely that greater access to information and archival resources related to the History of Medicine in Tehran, as well as the existence of wider connections with other scientific and research centers at the national and international levels, have provided



more diverse research opportunities for students at this university. Finally, the research policies and priorities of Tehran University of Medical Sciences may have specifically supported interdisciplinary research, such as the History of Medical Sciences, a more suitable platform for conducting this type of study (Eghbali, Asadi, and Roustae, 2018; Erfanmanesh, 2017).

The results of the present study show that the highest percentage of theses were written with the participation of one (64.8%) or two (35.2%) supervisors. This finding aligns with the study performed by Mainhard et al., who suggested that in most universities, students conduct their research under the supervision of one or two faculty members and that faculty members play an important role in supporting students in assessing the quality of the thesis (Mainhard, et al., 2009). Additionally, the theses of medical students at Rafsanjan Medical School stated that most theses were written with the guidance of one supervisor (Rezaeian, Salem, and Dehghan, 2005).

The findings related to the contribution of each faculty level and rank (supervisor, advisor, and reviewer) in the production of theses indicate that assistant professors are the most involved, followed by associate professors, then full professors. This part of the research findings is consistent with the results of Nobakht's study. Because he also concluded in his study that among faculty members, assistant professors are in the first place (33.9 %), associate professors are in the second place (14.3 %), and professors are in the third place (6.6 %) (Nobakht, 2018). The results of the study by Hoshyarfard et al. (2010) are also consistent with the present study. They examined how well research methods were applied in theses from the Department of Dentistry at Islamic Azad University during 2007-2008. The findings indicated that the highest academic rank among supervisors and advisors was "*Assistant Professor*," accounting for 87%.

The results of the study show that Mohammad Reza Rajabnejad and Arman Zargarani were most responsible for supervising and advising theses. Investigating the factors affecting the selection of supervisors and advisors is a multifaceted issue that is influenced by the complex interaction of the characteristics of the professor and the student. The reputation and scientific credibility of the professor in the specific field related to the thesis topic, as an indicator of knowledge and experience, play a significant role in attracting students. Also, the success history of previous students under the professor's guidance and the degree of their accessibility and availability to provide effective guidance are among the determining factors in the selection process. In addition, the field of specialization and the degree to which it matches the student's interest and research topic, the professor's active role in scientific networks and research groups, and finally, the professor's academic status and rank at the university, all act as effective factors in students' decisions to choose a supervisor (Rezaeenour, et al., 2016; Eghbali, Asadi, and Roustae, 2017). A detailed examination of these factors requires qualitative studies aimed at a deeper understanding of the motivations and priorities of students and faculty.

According to the results of this study, it is suggested that:

Researchers pay more attention to the history of modern medicine, especially Iranian medicine, in recent times. This topic may include examining the developments in the health system, the impact of new technologies on medical knowledge, a historical study of identifying the most common diseases in the country, using historical models to identify important nodes related to health, developing a historical model of the general public's entry into the field of national health care and using this model to understand new



concerns while reflecting on past experiences for future insights. It also involves studying the historical structure of the country's national healthcare system and the role of Iranian doctors and scientists in global medical progress.

Acknowledgements

The current research has been approved by the ethics committee of Arak University of Medical Sciences with the ethical code IR.ARAKMU.REC.1401.4093.

Authors' Contribution

The authors confirm their contribution to the paper as follows: Conceptualization, Supervision, Validation, Writing- Reviewing and Editing: Zahra Aghabeiglooei And Seyed Abdollah Mahmoodi and Jamal Rezaei Orimi. Investigation, Resources, Writing- Reviewing and Editing: Roshanak Saghebi and Morteza Mojahedi. Methodology, Software, Formal analysis, Writing- Reviewing and Editing: Seyyed Amir Hosein Latifi and Mehdi Salehi. Investigation: Morteza Mojahedi and Jamal Rezaei Orimi. Conceptualization, Supervision, Writing- Original draft preparation: Zahra Aghabeiglooei and Seyed Abdollah Mahmoodi. All authors read and approved the final version of the work.

Funding

This research funded by Traditional and Complementary Medicine Research Center (TCMRC) of Arak University of Medical Sciences.

Conflict of Interest

None.

References

- Aghabeiglooei Z, Rezaei Orimi J, Hashemimehr SM, et al. 2025. Quantitative Evaluation of the Content of Theses in the Field of History of Medical Sciences in Iranian Universities (2013-2022). *Iranian Journal of Medical Ethics and History of Medicine*, 18, pp. 1-20. [in Persian]
- Amiri, M., Rahimi, S., and Heidari, G., 2023. Evaluation of Master's Dissertations of the Social Sciences and Education of Razi University Based on Scientific Writing Principles. *Higher Education Letter*, 16, pp. 105-128.
- Asanov, A.M., Asanov, I., Buenstorf, G., et al., 2024. Patterns of dissertation dissemination: publication-based outcomes of doctoral theses in the social sciences. *Scientometrics*, 129, pp. 2389-2405. <https://doi.org/10.1007/s11192-024-04952-1>.
- Asefzadeh, S., Asefzadeh, S., Hashemi, F., et al., 2008. Evaluation of Medical Residency Theses in Qazvin. *J Guilan University of Medical Sciences*, 17, pp. 65-72. [in Persian]
- Azizi, M., 2010. Research Methodology in History of Medicine. *J Islamic and Iranian Traditional Medicine*, 1, pp. 99-104. [in Persian]
- Bahrami Taqanaki, H., Shirazi Mehrabad, M., Abbasi Gravand, M.R., et al., 2019. Subject Trends in Complementary and Alternative Medicine in Mashhad University of Medical Sciences Theses. *Medical J of Mashhad University of Medical Sciences*, 62, pp. 1536-1544. [in Persian]
- Banitalebi Dehkordi, B., 2016. Content analysis of thesis Master of Accounting in Iran. *J Management Accounting and Auditing Knowledge*, 5, pp. 1-11. [in Persian]
- Baradaran Eftekhari, M., and Falahat, K., 2024. Five-year evaluation of knowledge production in Iranian Traditional Medicine Research Centers. *Jitm*, 15 (2), pp. 105-114. [in Persian]
- Chang, Y.W., Huang, M.H., and Lin, C.W., 2015. Evolution of research subjects in library and infor-



mation science based on keyword, bibliographical coupling, and co-citation analyses. *Scientometrics*, 105, pp. 2071-2087. <https://doi.org/2010.1007/s11192-11015-11762-11198>.

Cohen, L.M., and Morrison, L., 2007. *Research Methods in Education*. Canada: Routledge.

Ebrahimi, K., Mahdavi, A., and Donyaei, Z., 2024. Survey the titles of dissertation in the field of Health Information Technology. *J Modern Medical Information Sciences*, 10, pp. 325-338.

Eghbali, J., Asadi, A., and Roustaei, M., 2017. Influencing factors on choosing supervisors from post-graduates' viewpoints in the Agricultural Economics and Development College at Tehran University, using a Grounded Theory approach. *Agricultural Education Administration Research*, 9, pp. 59-73.

Erfanmanesh, M.A., 2017. The Impact of International Research Collaboration on the Quality of Scholarly Output of Tehran University of Medical Sciences. *J Health Administration*, 20, pp. 42-56.

Farokhzadeh, F., Zarei, A., Rastgar, A., et al., 2024. Designing and Illustrating the Knowledge Network of Digital Banking Studies with a Bibliometric Approach. *Scientometrics Research J*, 10, pp. 99-120.

Ghasemi, H., 2014. Content Analysis of Physical Education Dissertations and Theses in Payam Noor University Based on Research Methodology. *New Trends in Sport Management*, 1, pp. 65-74. [in Persian]

Ghassemlou, F., 2022. Strategies for using history of medicine to promote health: initial studies. *J Islamic and Iranian Traditional Medicine*, 13, pp. 93-104.

Ghazi Mirsaeid, S.J., Motamedi, N., and Emami, S.M., 2018. Scientific Products of Research Centers Affiliated to Tehran and Isfahan Universities of Medical Sciences Indexed in Scopus: 2009-2013. *Payavard Salamat*, 12, pp. 112-119.

Hazeri, A., Makkizadeh, F., Beig-Khurmizi, F., et al., 2017. A Study of Journal Papers Published from the Information Science and Knowledge Studies Master's Theses. *Scientometrics Research J*, 3, pp. 15-28.

Hill, C., Corbett, C., and St. Rose, A., 2010. *Why So Few? Women in Science, Technology, Engineering, and Mathematics*. Washington: American Association of University Women.

Hodhodinezhad, N., Zahedi Anaraki, R., and Ashrafi Rizi, H., 2012. The scientific production and scientific mapping of Iranian researchers in traditional medicine during 1990-2011 in Web of Science. *Health Information Management*, 9, p. 524. [in Persian]

Hoshyarfard, A., and Lasemi, E., 2010. Tahghigh dar olom dandanpezeshki, 6, pp. 15-23.

Jones, S., Wahab, K., and Hejden, B., 2007. *How to Write Your MBA Thesis*. Oxford: Meyer & Meyer (UK)Ltd.

Kasiri, M., Ahmadzade, K., and Shabankare, K., 2018. Trends in Scientific Publications of Iran and the World on Traditional Medicine in Scopus during 2007-2016. *Complementary Medicine J*, 8, pp. 2265-2278. [in Persian]

Mainhard, T., Van Der Rijst, R., Van Tartwijk, J., et al., 2009. A model for the supervisor-doctoral student relationship. *Higher education*, 58, pp. 359-373.

Moeini, R., Gorji, N., Ghods, R., et al., 2017. Quantitative and Qualitative Assessment of Persian Medicine Articles Indexed in PubMed by the End of 2015. *J Babol University of Medical Sciences*, 19, pp. 21-26. [in Persian]

Moradi Lakeh, M., Goushegir, S.A., and Amini, M., 2008. Traditional and Complementary/Alternative Medicine (TCAM) in medical theses (1991-2006). *Payesh (Health Monitor) J*, 7, pp. 337-344. [in Persian]

Nadim, A., 2015. History of the School of Public Health and Institute of Public Health Research of Tehran University. *Arch Iran Med*, 18(12), pp. 868-870. PMID: 26621023.

Naghbi Harat, Z., Jalali, N., Zarafshan, M., et al., 2008. A glance on Iranian traditional medicine and determining the medical students perspective. *Iranian J Medical Ethics and History of Medicine*, 1, pp. 45-54. [in Persian]





- Nave Ebrahim, A., and Mansorin, Y., 2015. Evaluating the quality of master's theses in educational management in order to improve the quality of university learning. *Ayandepajohi Modiriat*, 25, pp. 1-12.
- Nobakht, Y., 2018. Scientific evaluation of behavioral accounting research in Iran. *Iranian Management Accounting Association*, 7, pp. 125-135.
- Nobakht, Y., 2019. Scientometrics study of the Islamic finance sphere treatises in Iran. *Financial Knowledge of Securities Analysis*, 12, pp. 37-48. [in Persian]
- Nobakht, Y., 2021. Scientometric Study of Dissertations in the Field of Islamic Economics in Iran. *Caspian J Scientometrics*, 7, pp. 54-63. [in Persian]
- Parvinroo, S., Daeihamed, M., Rafiei, E., et al., 2021. Evaluation of the knowledge, attitude, and practice of traditional and complementary medicine .by pharmacy students in Guilan University of Medical Sciences regarding in 2020. *J Islamic and Iranian Traditional Medicine*, 12, pp. 99-114. [in Persian]
- Rabbikhah, F., Khanbabaei, V., and Zaker Salehi, G., 2020. The Impact of the Prevalence of COVID-19 on the Management Dimensions of Universities and Iran's Higher Education Institute from the Perspective of Experts. *Teb va Tazkiyeh*, 29, pp. 196-211.
- Rezaeenour, J., Roobahani, Z., Rahseparfard, K., et al., 2016. Prioritizing Effective Factors for Selecting Research Cooperator and Supervisor Using Fuzzy Analytic Hierarchy Process. *Higher Education Letter*, 9, pp. 67-84.
- Rezaeian, M., Salem, Z., and Dehghan, S., 2005. Critical evaluation of theses of medical students of Rafsanjan Medical School. *Majale Markaz Motaleat va Tosee Amozesh Pezeshki*, 2, pp. 72-97.
- Rezaei Orimi J, Khosravi A, Alembizar F, et al. 2025. Content analysis of articles in the field of history of medicine in the Iranian Journal of Medical Ethics and History of Medicine. *Caspian Journal of Scientometrics*, 12, pp. 44-54. [in Persian]
- Rezakhani Moghadam, H.D.S., Nabiolahi, A., et al., 2011. The content analysis of theses in the field of health education in Tehran University of Medical Sciences, Tarbiat Modares University, and Iran University of Medical Sciences during 1970-2010. *Payavard Salamat*, 5, pp. 80-90.
- Rippon, G., 2020. *Gender and Our Brains: How New Neuroscience Explodes the Myths of the Male and Female Minds, Paperback*. New York: Vintage.
- Sarparast Sadat, S., Zandi, M., and Veisi, S., 2017. *Political Thought in Islam*. Master Thesis for Political Science in Islam, Allameh Tabataba'i University, Tehran, pp. 139-159.
- Seyedin, S., and Babalhavaeji, F., 2009. Content analysis of Master's theses in Library and Information Science of Islamic Azad University, North Tehran, Tehran Science and Research, Ahvaz, and Hamadan Science and Research branches in the years 1372-1386. *Research on Information Science and Public Libraries*, 15, pp. 95-127. [in Persian]
- Shahrokhi Sardo, F., Salajegheh, M., and Soleimani, A., 2024. Patterns of Scientific Collaboration in the Field of Nutrition Information Literacy in Scopus Databases. *Scientometrics Research J*, 10, pp. 155-180.
- Soldatov, I.K., Juravleva, L.N., Tegza, N.V., et al., 2023. Scientometric analysis of dissertation papers on pediatric dentistry in Russia. *Russian J Dentistry*, 27(6), pp. 571-580. doi: 10.17816/dent624942 [in Persian]
- Taghvaei Yazdi, M., 2021. A Quantitative and Qualitative Evaluation of Master's Theses in Education of Mazandaran province. *Transcendent Education*, 1, pp. 1-16.
- Varnaseri, A., Hoseini Ahangari, S., Shabani, A., et al., 2022. Drawing a Knowledge Map of Scientific Productions of Traditional Medicine by Iranian Scientists in Web of Science. *J Quran and Medicine*, 7, pp. 91-101. [in Persian]
- Zargaran, A., 2019. Reviewing Methodology of Research in the History of Medicine and Writing Thesis. *J Res Hist Med*, 8, pp. 199-202. [in Persian]