

The Relationship between Intellectual Property Components and Open-Access Medical Journals (Iran)

Atefeh zarei

Associate Prof. Department of Knowledge and Information Science, Islamic Azad University Hamadan Branch, Hamadan, Iran.

atefehzare@gmail.com

ORCID iD: <https://orcid.org/0000-0002-2457-2455>

Anahita Giti

Ph.D. in Knowledge and Information Science, Faculty of Health,

Hamadan University of Medical Sciences, Hamadan, Iran.

Corresponding Author: Anahitagitty@gmail.com

ORCID iD: <https://orcid.org/0000-0001-7348-434x>

Marzieh Golchin

Ph.D. in Knowledge and Information Science, In charge of scientometrics, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.

golchinlibster@gmail.com

ORCID iD: <https://orcid.org/0000-0002-8915-1651>

Zahra Faraji

Ph.D. in Knowledge and Information Science, Deputy of Research and Technology, Iran University of Medical Sciences, Tehran, Iran.

faraji.z@gmail.com

ORCID iD: <https://orcid.org/0000-0001-9154-166x>

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Abstract

Intellectual property laws should not be strict protection frameworks for free Access to Information. Instead, as digital space has made it easier to access Information and blur the geographical boundaries of knowledge, Access to Information is permitted for all by amending intellectual property laws nationally and internationally. This is a quantitative study to bridge the gap between the richness and poverty of Information and a means of disseminating knowledge. The Information needed to answer the questions of this research was collected using a researcher-made questionnaire (content analysis and Delphi panel) consisting of five main components (publisher, author, publications, subject, and commercialization) and 63 questions. Questionnaires were sent to the study's statistical population, which was all the open-access medical journals approved by the Ministry of Health. Based on the type of variables, data were described with mean and standard deviation indices for quantitative and frequency variables and frequency percentages for qualitative variables. The collected data were analyzed using SPSS software version 24. The findings of this study are presented in several different tables to examine the intellectual property components and the databases indexing medical journals. Publications indexed on all three sites of Scopus, Web of Science, and PubMed are components one and three due to deviations from the norm. The Kruskal-Wallis test was used to examine the uniformity of the score distribution of the components mentioned in the indexes. Only the four components of normality are established. According to the findings, all components have a significant relationship with the index, language, publisher, and time of publications of the Ministry of Health. This questionnaire can be used to provide an intellectual property model for open-access medical journals. And using the presented model to review and evaluate open-access journals in the field of medicine.

Keywords: Intellectual Property Rights, Medical Journals, Open Access, Open-Access Journals.

Introduction

"Open access journals, as one of the main infrastructures of the free flow of Information, have created this worldwide outline for all countries to make their scientific productions easily available to researchers (Khalili, 2015). Intellectual Property is generally characterized as non-physical Property that is the product of original thought. Typically, rights do not surround an abstract, non-physical entity; intellectual property rights surround the control of physical manifestations or expressions of ideas. Intellectual property law protects a content creator's interest in her ideas by assigning and enforcing legal rights to produce and control physical instantiations of those ideas (Adam, 2018). Today, there is a heated discussion about the Importance of Intellectual Property (moral) and maintaining it at the national, regional, and international levels, the Expansion of communication by the World Wide Web, and quick and easy Access to all the Information. Some people's abuse of workers and the achievements of others have added to the Importance of maintaining this type of Property and its credit (Shir Ali & Karimi, 2018).

The World Intellectual Property (WIPO) refers to creations of the mind, inventions, literary and Artistic works, and symbols, names, and images used in commerce (WIPO, 2014).

The ability to recopy, facility of information dissemination, expansion of the geographical boundaries, increment and facility of violating the intellectual Property of literary or artistic personality, inability of the identity of the copyright infringer in the digital environment, the transmission of Information quickly to millions of people around the world, information security and protection, Storage of a large amount of Information in very limited space, and the simultaneous use of Information and information resources can be counted as other features of digital environment (Rostami, 2015). However, there are open-access journals, including permanently open electronic journals, free of any legal restrictions concerning intellectual Property and authors' rights. These journals are published by nonprofit institutions such as the Public Library of Science (PLOS) or BioMed Central (Suber, 2012; Giti, Zare & Bayat, 2021).

Intellectual property rights are the legal authority arising from the existence of a credit relationship between the intellectual work and the owner of the work, according to which the owner of the work, during his lifetime and his successor, including the legal heir, after the death of the owner of the work for some time They will benefit. Still, spiritual authority and prestige is a permanent effect (Emami, 2007). In other words, intellectual property rights are called human creation and intellectual creativity, which include two parts, intellectual Property or ownership of intellectual creations that the name of the author or inventor cannot be transferred to others, and the owner has the exclusive right to use intellectual activity and Gives initiative (Katozian, 2005). These rights are aimed at expanding the research and development of science and knowledge (Scott, 1998). And make the distribution of copyrighted works in cyberspace easier, cheaper, and more efficient (Sapp, 2005).

The influential features of the digital environment are copyright laws. From the creation of works without authorship, failure to accurately identify the place of production, publisher, and final consumer of information and information sources, reproduction, composition, and transformation of Information, citizenship and first publication (in conventions and agreements protecting literary and artistic property rights or Copyright, two criteria of nationality and first publication, are the most important criteria for protecting copyright holders and issues protected in the real environment (Sadeghi, 2014). With the ability to recopy, facility of information dissemination, expansion of the geographical boundaries, increment and facility of violating

the intellectual Property of literary or artistic personality, inability of identification of the copyright infringer in the digital environment, sending Information quickly to millions of people around the world, information security and protection, Storage of large amount of Information in very limited space, and the simultaneous use of Information and information resources can be counted as the other features of digital environment(Rostami, 2015). However, there are open access journals, including permanently open electronic journals, free of any legal restrictions concerning the intellectual Property and author's rights. These journals are published by nonprofit institutions such as the Public Library of Science (PLOS) or BioMed Central(Suber, 2012). The reasons which have accelerated the open access process are the traditional (author's interest in publishing research results) dimension, new information technologies (development of the World Wide Web) dimension, serials crisis dimension, and intellectual property rights in cyberspace the Internet dimension. Due to the Importance of significant publishers' journal subscriptions, today, authors make their articles openly available online; of course, this is an ability to deal with change(Laakso & Björk, 2016). Also, open-access journals, as one of the main infrastructures of the free flow of Information, have created this worldwide outline for all countries to make their scientific productions easily available for researchers(Khalili, 2015).

Considering that the national medical science universities have open-access journals in different subject areas and that the journals are the scientific communication channels of universities, there has not been a discussion about intellectual property rights according to the extracted and general Information based on failure to respect intellectual property rights and that there has not been a serious study in this area so far, The components of intellectual Property are publisher, author, publications, subject, commercialization, which are extracted using content analysis. There are changes in the shape of electronic and digital resources and environments; It has caused many changes in the traditional and previous regulations of copyright and intellectual property rights. Despite the many benefits, these changes have brought problems. Considering that the country's medical universities have open-access journals with different subject areas and the journals are the channel of scientific communication between universities, the discussion of intellectual property rights is based on the extracted Information and general Information based on non-observance of intellectual property rights. No serious research has been done in this field. In this study, we seek to examine intellectual property components in the index of open-access medical journals in Iran.

Research question

What are the characteristics of intellectual property components in free Access to medical journals?

Literature Review

These items in the article "The Presentation of Intellectual Property Pattern of Open Access

Medical Journals (Iran) is also mentioned " MacLeavy, Harris and Johnston (2020), in their study, concluded that Journal publication in geography changed significantly in the late 20th century as its dominance by learned societies was captured by (large, multi-national) commercial organizations making large profits from freely-donated authors' Intellectual Property. Further changes are now proposed, involving journals being freely accessible,

sustained not by subscriptions but rather by author payments, which will enhance capitalist publishers' profit-making potential and disadvantage authors. Alternatives are needed, returning to the earlier model whereby research papers are not treated as profit-making commodities.

Björk (2018) concluded that many fields of business had been profoundly changed by the emergence of the Internet, which is a truly disruptive innovation. The reviewing, publishing, and retrieval of articles have also benefited enormously from digitalization. Sahoo, Mohanty and Sahoo (2017) in a study based on participation in open-access journal production in India from 2003 to 2016, realized that the U.S. and India have been more effective in adopting the open access policy in scientific journals scope.

In her study, Rowley, Johnson, Sbaifi, Frass and Devine (2017) concluded that identifying the academic potential for the publishing cycle is a distinction. Academic reports demonstrate that reusing a work is related to its noncommercial use. There is a significant difference in the number of requests for status in comparing technology and medical science to art, humanities, and social science, but in general, its impact was low. In his study, "Is Open Access the future of scholarly journal publishing?"

A review of the theoretical and specialized literature of the research showed that a large volume of them have been conducted in the field of Copyright and Open Access to Scientific Information in cyberspace. Still, there has not been any study on intellectual property rights and open-access medical journals in the world and Iran. Most studies have focused on the theoretical approaches (theoretical foundations and frameworks explanation), and none of the backgrounds have independently addressed this issue. Outside of Iran, researchers such as MacLeavy et al. (2020), Bayeri (2013), Rowley et al. (2017), and Björk (2018), and in Iran, researchers such as Mousavi, Zarei, Zavareghi and Akbarpour (2019), Rostami (2015), Mohtashami & Mashhadi (2014), Khalili (2015), and Saeedi and Haji Hosseini (2014) have conducted effective studies concerning this issue (Giti, Zare & Bayat, 2021).

The first formal but implicit copyright law in Iran was passed in 1925. The scope of the topics worked on during the analysis of the content of the dissertation is more on the topics of unclear copyright laws on the Internet, Copyright and free Access in cyberspace, inefficiency of copyright laws, review of various intellectual property licenses, review of open access publications in Dovaj database, Web of Science, etc. Investigation of restrictions on free Access in Iran, investigation of electronic publishing and free Access, investigation of Copyright in digital libraries, investigation of violation of copyright law, change of media and information carriers, investigation of Copyright in Digital space, examining barriers to free Access, Copyright in the electronic world and the obsolescence of laws and the lack of anticipation of new conditions, especially in cyberspace, incompatibility and coordination between the Iranian copyright system and international law, publishers do not adhere to the material and intellectual rights of authors And the implementation of copyright laws, the lack of effect of domestic copyright laws in protecting the rights of Iranian authors and preventing their unauthorized reproduction, the ineffectiveness of domestic copyright laws in the Iranian publishing economy, non-compliance of authors with copyright laws and all Examine the barriers and problems associated with enforcing Copyright on the Internet and digital libraries. The result of all the research is that should be free and open Access to Information. Access must be with permission, and intellectual property laws must be followed.

Materials and Methods

The present quantitative study was performed on the databases of Scopus, Web of Science, PubMed, Google Scholar, Magi ran the specialized site, Iran Doc, and Google using related keywords Using the information content analysis method. After reviewing and determining the thematic relationship of the documents with the research topic, 300 out of about 700 searched documents were included in the analysis and evaluation. Each extracted word was announced with a specific source, and the date of the most recent source was mentioned next to it. The thematic connections of the keywords were examined and the main headlines were identified in the next step. Synonyms and similar expressions were found, corrected, and sometimes deleted from the data. Keywords were changed and moved in the main categories. Subsequently, the collections were merged, combined, and extracted to identify five main categories (components) from all documents. The naming of the components was related to the set that made up each set (with the approval of the expert group).

At this stage, the main data collection tools were checklists and receipts to determine the main components and indicators. A closed and researcher-made questionnaire consisting of five components and 63 questions was designed based on the initial conceptual model. The validity of this questionnaire was confirmed using the Delphi panel (three steps) with professors' and experts' comments. This questionnaire's answers were designed based on the five-choice Likert scale using the "level of agreement" scale. The content validity was evaluated quantitatively using the relative content validity coefficient (CVR) and content validity index (CVI) (with a coefficient of 50). Cronbach's alpha index (greater than 0.7) was used to assess reliability. Changes were made to the questionnaire and finally, it was confirmed with 63 questions. After this stage, confirmatory factor analysis was performed to finalize the questionnaire.

In the statistical population, the reliability of the questionnaire was calculated by answering the initial questionnaire, which was validated because the Cronbach's alpha index for different questionnaire dimensions was greater than 7%. The questionnaire consists of two parts, the first part contains demographic Information and the second part contains Information related to the study objectives. The questionnaires were sent to the statistical population, which included the editors and executive managers of the publications of the Ministry of Health, in January and February 2019, and about 611 questionnaires were returned after several follow-up steps.

The exploratory factor analysis was used to determine the dimensions of the mentioned questionnaire, and then confirmatory factor analysis was used for the final confirmation of the questionnaire. The data of this study were described based on the type of variables with mean and standard deviation indices for quantitative and frequency variables and frequency percentage for qualitative variables. The Kolmogorov-Smirnov test was used to evaluate the normality of familiarity score and attitude score variables. The relationships between the variables were examined using Kruskal -Wallis, Mann-Whitney, and Chi-square tests. The Spearman correlation coefficient was also used to examine the relationship between quantitative variables. The collected data were analyzed using SPSS software version 24.

The study's statistical population was all medical journals available on the Iran Medical Journals Information System, which are updated and approved daily by the ministry of health. On the last examination date (2020.02.23), there were 430 journal titles on this website. The rank confirmation of 310 active serials and seven journals were canceled among the mentioned figure.

In examining the statistical data, there were 78 PubMed-indexed journal titles, 84 ISI-

indexed journals, 120 Scopus-indexed journal titles, and 40 shared (PubMed, ISI, and Scopus-indexed) journal titles. Other journals were on databases such as SID, Iran Medex, Magi ran, etc. On this website, all the journals that have timely publications are marked with green, publication delays of one and two numbers with yellow and orange, respectively, and publication delays of more than three numbers or more and the cancelation of the publication imprimatur are marked with red. There were about 75, 28, 259, 10, and 15 journals in the health-related, nursing, medical, paramedical, and pharmacy areas, respectively, and 16 journals belonged to the dentistry and other areas of biology, jurisprudence, law and medical ethics, and herbal and traditional medicine.

In examining 430 journals on the Ministry of Health website, 155 journals are in English (36%) and 27° are in English (64%). Fifty-five association publishers, 26 commercial publishers, and 352 governmental publishers cover the open-access journals of the Ministry of Health.

In examining the author's rights in journals, the author's rights or Copyright are often only mentioned. Only a few limited journals have Copyright and author's rights forms. About 45 journals present forms based on copyright compliance on websites. Fifty-five association publishers, 26 commercial publishers, and 352 governmental publishers cover the open-access journals of the ministry of health.

Results

After collecting data and Information, the data results were described by descriptive analysis, including central and distribution indicators such as frequency percentages, charts, and tables. All the statistical analyses were based on about 611 questionnaires received, among those sent to chief editors, managers in charge, and managers in chief of 430 journals from the Ministry of Health. The following Information was obtained based on the demographic Information of the questionnaires.

From the 611 filled-in questionnaires, 147 and 464 journals were in Persian and English, respectively. Governmental publications were reported about 81%, associations at about 14%, and commercial publications at about 5%.

A total of 80 journals are indexed on Scopus PubMed, and Web of Sciences databases. Thirty-eight journals are indexed in Scopus and PubMed, and 42 journal titles are indexed in Scopus and web of sciences.

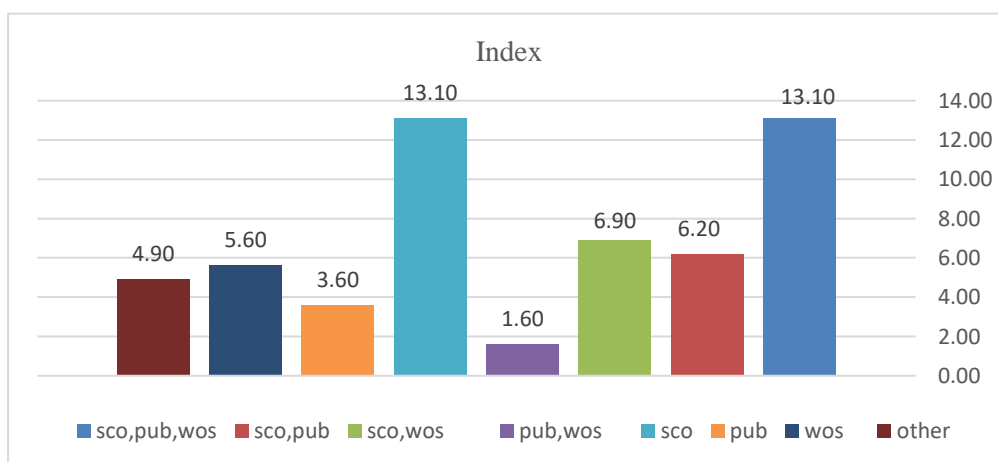


Figure 1: The Indexes of Open-Access Medical Journals

About 105 questionnaires announced that their journals had intelligence property forms. The release periods are mentioned in Table 1.

Table 1
The frequency of the release period variable

Date of publication	Frequency	Percentage
Monthly	۲۰	۰/۰۲
Quarterly	۲۹۰	۷۳/۷۹
Bimonthly	۰۴	۱۳/۷۴
Bio Quarterly	۲۹	۷/۳۷
Total	۳۹۳	۱۰۰

In the examined case, 73.79% were quarterlies, and 7.37% were Bio Quarterly

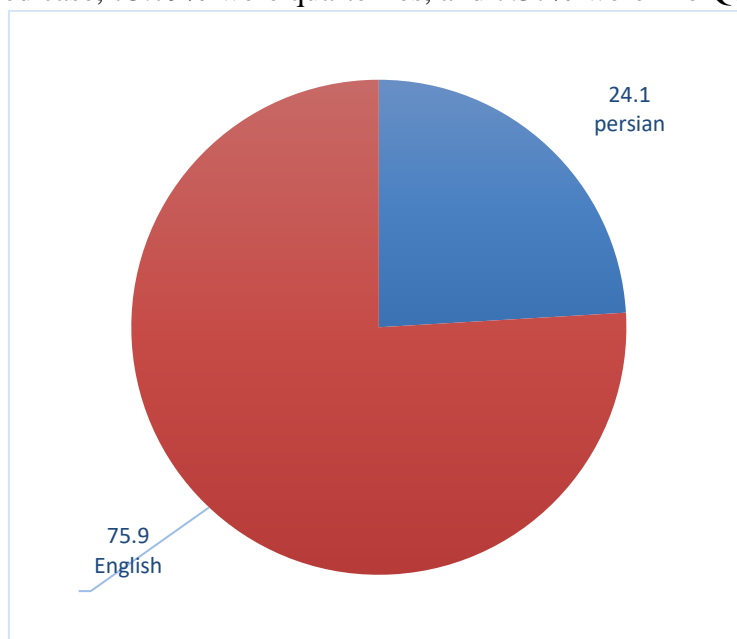


Figure 2: Frequency of the language variable

Table 2
The relationship between the number and the language of publishers

		Publisher		
		Scientific Community	Trade	Government
	23	7	139	139
Language	63	26	375	375
	86	33	633	633

Table 2 shows 139 and 375 Persian- and English-language government publishers, respectively, based on the number of completed questionnaires. Moreover, the publishers of Persian- and English-language associations have announced 23 and 63 cases, respectively. The normality assumption is valid only for Persian in the components and not for English.

Table 3

Mann-Whitney & Wilcoxon Test Components and the Language of Publications

	Publications	Commercialization	Subject	Author	Publisher
Man Whitney Test	33373.50	33587.00	33758.00	32644.00	33207.50
Wilcoxon	44251.50	141467.00	44636.00	140524.00	44085.50
Z	-.395	-.278	-.186	-.784	-.491
Decision criteria	.693	.781	.853	.433	.623

To examine the uniform distribution of scores of different components in the language of journals, the results of the Mann-Whitney test showed no significant differences between journals and groups. Wilcoxon's test also calculates the difference when the assumption is not normal.

Table 4

Examining the normality of the scores of the studied components separately by the publisher

Publisher	Publications			Commercialization			Subject			Author			Publisher			
	Scientific	trade	government	Scientific	trade	government	Scientific	trade	government	Scientific	trade	government	Scientific	trade	government	
n	83	31	497	83	31	497	83	31	497	83	31	497	83	31	497	
normal parameters	Average	23.518	23.93	23.342	40.9759	40.7419	41.3763	66.662	68.903	68.2495	50.734	52.225	51.012	17.325	17.225	17.480
	S.D	3.6936	4.596	4.1479	9.34824	11.02714	9.88427	14.0904	13.95554	13.2164	8.67022	7.80047	8.79080	2.01282	2.31962	1.96956
Statistics of Kolmogorov-Smirnov	1.488	.798	4.002	1.172	.600	2.097	2.082	.938	4.654	1.128	.873	2.166	2.019	.952	4.538	
Decision criteria	.024	.548	.000	.128	.864	.000	.000	.343	.000	.157	.432	.000	.001	.326	.000	

Cases with a p-value less than 0.05 are not assumed to be normal. Government publishers in the publisher and author components and association publishers in the author and commercial components are normal.

Due to the deviation from the normality assumption, the Kruskal-Wallis test was used to verify the uniformity of the score distribution of different components in different publications.

Table 5

The Chi-square test and components of publishers

Publishers	Publications	Commercialization	Subject	Author	Publisher
Chi-square	.853	.521	1.261	1.142	.679
df	2	2	2	2	2
Asymp. Sig.	.653	.771	.532	.565	.712

The results of the Kruskal-Wallis test for the uniformity of the distribution of scores of different components in different types of publishers show no statistically significant differences between different publications.

Table 6

The Kruskal-Wallis test for the uniformity of the distribution of scores of different components in different publications

Date	Publications	Commercialization	Subject	Author	Publisher
Chi-square	2.343	3.101	7.300	2.352	7.794
df	5	5	5	5	5
Asymp. Sig.	.800	.684	.199	.799	.168

The results of the Kruskal-Wallis test for the uniform distribution of different components in different publications show no statistically significant difference between the scores of components in journals with different publication times.

The results of the Mann-Whitney test for the uniformity of the distribution of scores of different components in the publication show no significant differences between the journals.

The results of the Mann-Whitney test for the uniformity of the score distribution of different components in having a journal ownership form showed no significant differences between journals.

The following information was obtained in the study of intellectual property components of the research with the indexes of free medical access publications. The test estimates a significant difference between the distribution of available data and the normal distribution. The assumption of normality is not established due to the deviation from the assumption of normality in the case where the p-value is less than 0.05. The Kruskal-Wallis test was used to examine the uniformity of the score distribution of the components mentioned in the indexes, which established only the four components of normality. In examining the Scopus index, PubMed, and Web of Science, components one and three are out of the norm due to deviations. The Kruskal-Wallis test was used to verify the uniformity of the score distribution of the components mentioned in the indexes, which established only the four components of normality.

In the Scopus profile, the pub mode components assume that two, four, and five are normal, assuming that the data are normal in the Scopus and Web of Science profiles.

The data is assumed to be normal in the Scopus, PubMed, and Web of Science profiles.

Table 7

The significance of components in different indexes

Index	Publications	Commercialization	Subject	Author	Publisher
Chi-square	2.773	2.649	6.182	2.725	.825
df	7	7	7	7	7
Asymp. Sig.	.905	.915	.519	.909	.997

According to Table 7, the result of the Chi-square test on the significance of the components indicates that all components are the same in different indices with no statistically significant differences.

Discussion

The need for intellectual Property in the flourishing of research, development and promotion of science and technology in the new spaces of the Internet and digital. The main purpose of this study was to identify the components of intellectual property rights in the open-access publications of the Ministry of Health of Iran. In this study, by examining the texts, we extracted the five main components of intellectual Property and designed a questionnaire based on it. This questionnaire consists of 63 questions that were found Suitable designing template for open access publications of the Ministry of Health and Medical Education after performing the statistical steps. The purpose of this study is close to the results of Saho, Mahanti and Saho (2017), in a study on the participation of open-access journals in India from 2003 to 2016, he found that the United States and India were more influential in adopting open access policies in the field of scientific journals. Also, Mousavi et al. (2019) in the results of their research, identified and matched the intellectual property rights Intellectual Property Licenses with the components of the indexed indexes in the Doaj database using data mining and concluded that using intellectual property licenses Used open access publications. McLaughlin and Johnston (2020) also found in their study that the availability of open access publications increased dramatically in the late twentieth century.

The results show a significant difference between the components. Hence, it can be concluded that there are relationships between the factors and intellectual Property of journals. This is similar to the emphasis that Laakso and Björk (2016) and MacLeavy et al. (2020) put on intellectual property rights in cyberspace and the Internet. The emphasis is on free Access and compliance with intellectual property laws. Ross, Magee, Walker and Wood (2012) asserted that there should be free and open Access to Information. Access must be with permission, and intellectual property laws must be followed, which is sought in this study. The Bartlett test results are significant, demonstrating that the correlation matrix between the items is not the identity or unit matrix. That is, there is a high correlation between the items within each factor on the one hand, and there is no correlation between the items of one factor and the items of other factors on the other hand. The results show a relationship between the components studied and the intellectual Property of free Access to medical journals. The components and questions have acceptable reliability and convergence.

Conclusion

The main purpose of protecting intellectual Property is to prevent the misuse and theft of ideas and to motivate and encourage scientists and researchers to carry out scientific research

and literary activities and make their results available by the scientific community. Compliance with the Charter of Ethics, Reason and Human Rights is the reason for applying intellectual property rights laws at the national and international levels.

The good result of this research was determining a criterion (designing a questionnaire) for evaluating the publications of the Ministry of Health.

Finally, this questionnaire can provide an intellectual property model for open-access medical journals. And using the presented model to review and evaluate open-access journals in the field of medicine.

Recommended:

- Do this research for non-medical journals in the future.

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