

An Insight into the Research Performance of the Egyptian Faculties of Veterinary Medicine based on the Journal Impact Factor and Citation Counts

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ABSTRACT

To assure quality in the higher education institutions, several factors should be considered. The most important factors are infrastructures, educational process and the research performance of the faculties. Research performance is measured by quantitative (publication productivity) and qualitative (journal impact factor and citation counts) indicators. My previous paper bibliometrically analyzed the productivity of the Egyptian faculties of veterinary medicine published in PubMed between 2000 and 2014. The current bibliometric study was undertaken with three aims. First to analyze the journal impact factor (IF) and citation counts of publications from different Egyptian faculties of Veterinary medicine published on PubMed between 2000 and 2014. Second, to explore the correlations between citation counts and some factors (faculty oldness, total publications, publication oldness and journal IF), and to list the journals and there frequencies used by the academics in the studied faculties. Publications were collected from the PubMed. The IF was retrieved from the Institute for Scientific Information (ISI) and the citation counts were obtained from the Goggle Scholar (GS). The analysis revealed that about 78% of the studies were published in journals with impact factor ($0.296 \leq IF \leq 8.167$) and only 12% were in journal with no impact factor (impact factor = 0). The faculties of veterinary medicine in Egypt were ranked according to the IF as follow; Cairo on the top followed by Mansura, Zagazig, Assiut, Alexandria, Suez Canal, Beni-Suef, Benha, Kafr El-sheikh, South Valley, Sohag and Menoufia. About 83% of the publications were cited at least once and up to 273 times, and about 17% were never been cited. Based on the citation counts, Cairo had the highest citations, followed by Assiut, Mansura, Alexandria, Suez Canal, Beni-Suef, Kafr El-Sheikh, Benha, Zagazig, Menoufia, Damanhour, South Valley and Sohag. Citation counts showed strong positive correlations with both faculty oldness and total publications, but week correlations with both publication oldness and journal IF. Ranking of different faculties could initiate a positive competition

Key words: Impact factor, Citation counts, Veterinary medicine, Egypt.

INTRODUCTION

University is the most important social place for the promotion of ideas and intellects.¹ Infrastructure, educational process and research performance are three quality

assurance measures for universities.² Bibliometric indices offer a relatively fair way to compare the scientific outputs between universities and/or researchers in the same or different countries.^{3,4}

Bibliometric analyses the academic publications by counting the total output during a specific time and measuring the research importance and impact in a specific discipline.⁵ Journal impact factors (IF) and citation counts are two main bibliometric indicators that commonly used to assess the quality of research outputs in the higher education sector worldwide.⁶ The IF reflects the average number of citations to articles published in a journal after two years.⁷ The higher IF of a journal indicates its scientific importance in a specific discipline.⁸ For instance, some journals such as Nature and Science are considered as high-quality journals because each has a high IF. The IF of different journals can be accessed from the Institute for Scientific Information (ISI) of Thomson Reuters, which is published

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in a report delivered through the internet at June every year for the previous year.

Citation analysis is a branch of information science based on citation counts. It is defined as the number of times a publication has been accessed and referenced by others scholars. The citation count is another indicator of the research quality and scientist importance.^{9,10} It is assumed that a high citation count for an article indicates it has been the subject of discussion or criticism in its discipline. There are many websites can be used to calculate the citation of publications such as ISI, Scopus, web of science (WoS), Google Scholar (GS) and others. The GS autonomously extracts significantly higher citation counts than other sites.¹¹

Egypt has 23 public universities and 15 of them include faculties of veterinary medicine. The faculties of veterinary medicine in Egypt from the oldest to the newest are Cairo (1954), Assiut (1961), Zagazig (1969), Alexandria (1974), Benha (1981), Beni-Suef (1982), Suez Canal (1985), Kafr El-Sheikh (1985), Mansura (1994), South Valley (1995), Menoufia (1997), Damanhur (2007), Sohag (2008), Aswan (2012) and Minia (2013). The Egyptian faculties of veterinary medicine produced 710 articles published in PubMed-indexed Journals.¹² The current study was undertaken with three main aims. First, to analyze the journal IF and citation counts of PubMed-indexed publications produced by academic departments related to the Egyptian faculties of veterinary medicine during the period between 2000 and 2014. Second, to investigate the correlations between citation counts and faculty oldness, total publications, publication oldness and journal IF of these publications. Third, to list the journals of these publications. To my best knowledge this is the first bibliometric study analyzing the IF and citation counts of publications from the Egyptian faculties of veterinary medicine. This detailed analysis will shed light on the findings of the comparisons of the Egyptian faculties of veterinary medicine and could be a useful baseline of ranking of these faculties.

METHODOLOGY

Scientometric online database method of analysis was applied for the current study. The bibliographic sources used for the analysis were the PubMed, GS and ISI.

Data Collection

Publications of the Egyptian faculties of veterinary medicine on PubMed during 2000-2014 has been collected and analyzed with Excel 2013 as previously published.¹² The

total publications for each faculty were calculated and the titles of publications were used for further IF and citation count analyses as described below.

Journal IF Analysis

The 2013 IF for each journal analyzed in the current study was retrieved from the Thomson ISI report published in 2014. The IF of the journals were grouped into non-impacted (IF=0) and impacted (IF > 0) categories. Furthermore, the impacted journals were scored into low (IF < 2), medium (2 ≤ IF < 4), high (4 ≤ IF < 6), very high (6 ≤ IF < 8), and extremely high (IF ≥ 8) to make the comparative bibliometric analysis easier. The total IF as a number and percentage was calculated for all faculties together and for each faculty in a separate. Furthermore, the total IF of each faculty was normalized to its total publications to calculate and compare means. The maximum and minimum IF for each faculty was calculated. Frequencies of each IF score was determined for the total faculties together and for each individual faculty as a number and percentage to the total publications of such faculty.

Citation analysis

The GS was searched for citations to the 710 publications of the Egyptian faculties of veterinary medicine on the Pub-Med during 2000-2014. The citation counts were collected within 2 days in August 2015. Simply, the title of the paper was entered in the search box of the GS and on clicking, it would contain a "cited by" link before a number that indicate the citation counts for this article. Total citation counts, mean (average number of citations per publications) ± standard error (SE), minimum and maximum citations were calculated for each faculty in Excel 2013. The citation counts were grouped into grades of citations; 0, 1-10, 11-50, 51-100, 101-150, 151-200 and 201-300, and frequency as a number and percentage of each grade was estimated.

Journal Core Analysis

The journals containing the 710 papers related to the Egyptian faculties of veterinary medicine were listed and the publication frequency of each journal was calculated.

Statistical Analysis

Statistical analyses were performed using Excel 2013. The descriptive statistics were analyzed and the mean, standard error (SE), minimum and maximum were determined. The correlation analysis was performed to determine the significant relationship between the citation counts

and oldness of the faculty, total publications, oldness of publications and IF. The correlation coefficient (r) was an indicator for the correlation. The correlation was considered perfect positive if $r=1$ or perfect negative if $r= -1$.

RESULTS

Journal IF Analysis

Among the 710 total publications produced by the Egyptian faculties of veterinary medicine and published in PubMed-indexed journals between 2000 and 2014, 559 papers (78.3%) were published in journals with IF more than 0, while 151 papers (21.7%) were published in non-impacted journals (IF=0). Most (328, 46.2%) of publications were in journals with low IF, and 215 (30.3%) were published in journals with middle IF, however a few publications; 13 (1.8%), 2 (0.3%) and 1 (0.1%), went to journals with high, very high and extremely high IF, respectively (Figure 1). The calculated total IF for the journals in which the papers were published was 1083. The lowest IF journal (0.296) was related to publications from Cairo and the highest IF journal (8.167) was seen in a publication from Mansura. The descriptive statistics of the IF were presented in Table 1.

From the Table 1, the studied faculties could be ranked according to their contributions to the total IF recorded by all faculties. Cairo was the first (28.2%) followed by Mansura (11.7), Zagazig (11.3%), Assiut (11.1%), Alexandria (8.4%), Suez Canal (6.7%), Beni-Suef (6.3%),

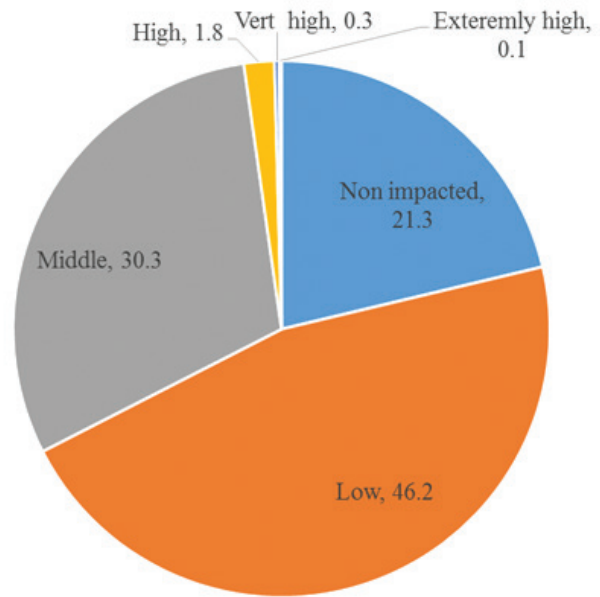


Figure 1: IF score frequency

Benha (6%), Kafr El-sheikh (4.3%), South Valley (2.1%), Sohag (0.4%) and Menoufia (0.2%). Aswan and Minia were not included as they have no publications during the study time (Figure 2). The IF based on scales from 0 to more than 8 was analyzed and presented in Table 2.

Interestingly, 52% (South Valley), 50% (Menoufia), 30.5% (Cairo), 33.3% (Sohag), 29.4% (Benha), 21.9% (Mansura), 20% (Assiut), 17.8% (Suez Canal), 14. (5Alexandria), 12.9% (Kafr El-Sheikh), 4.2% (Zagazig) and 2.4% (Beni-Suef) from

Faculty	Total IF	Contribution (%) to the total IF	Mean ± SE	Minimum	Maximum
Cairo	305.4	28.2	1.5±0.1	0.296	6.425
Assiut	120.3	11.1	1.3±0.1	0.675	3.784
Mansoura	126.9	11.7	1.7±0.2	0.51	8.167
Zagazig	122.0	11.3	1.7±0.1	0.474	4.156
Alexandria	90.7	8.4	1.5±0.1	0.742	3.499
Benha	64.8	6.0	1.3±0.2	0.675	3.976
Suez Canal	72.4	6.7	1.6±0.2	0.296	3.534
Beni-Suef	68.1	6.3	1.7±0.2	0.315	4.195
Kafr El-Sheikh	51.2	4.7	1.7±0.2	0.662	3.4
South Valley	32.7	3.0	2±0.4	0.875	5.078
Damanhour	22.3	2.1	2.2±0.5	0.742	6.451
Sohag	3.8	0.4	1.3±0.7	1.267	2.545
Menoufia	2.7	0.2	1.4±1.4	2.726	2.726
Aswan	0	0	0	0	0
Minia	0	0	0	0	0

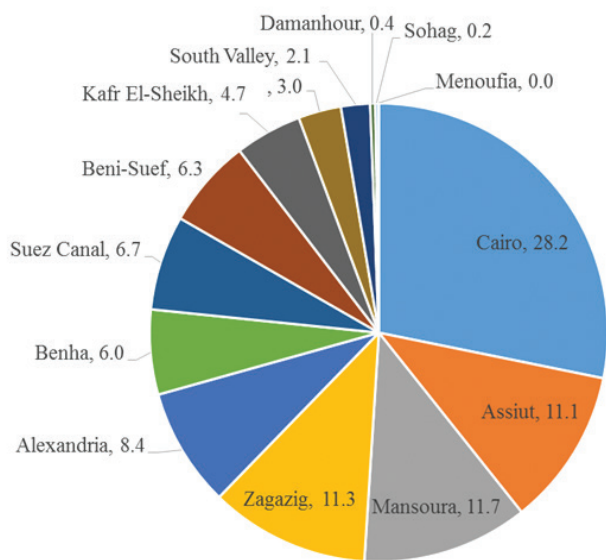


Figure 2: Contributions (%) of faculties to total IF.

publications were published in non-impacted journals. The IF-scaled analysis showed that most of the papers from different faculties were published in low and middle IF journals but only 1 paper in a very high and 1 paper in an extremely high IF journals.

Citation Analysis

Citation analysis revealed that 588 papers (83%) were cited at least once and up to 271 times with a total of 7517 citations in the period between 2000 and 2014, however,

122 papers (17%) were never cited during this period of time. More than half of the total publications (54.4%) had 1-10 citations, and one-fourth (25.8%) was cited 11-50 times while few percentage of papers (2%, 0.6%, 0.3% and 0.1%) were cited as 100, 150 and 300 times respectively (Figure 3). Cairo had the highest contribution (36.1%) to the total citation counts, followed by Assiut (14.3%), Mansura (11.7%), Alexandria (10.4%), Suez Canal (5.9%), Beni-Suef (5.5%), Kafr El-Sheikh (5.4%), Benha (5.3%), Zagazig (4.1%), Menoufia (2.8%), Damanhour (0.7%), South Valley (0.4%) and Sohag (0.2%) (Figure 4). When citation count of each faculty was normalized to its total publications, Kafr El-Sheikh was the on the top and its papers have an average of 13.2 citations, followed by Cairo (12.9), Alexandria (12.6), Mansura (12.1), Assiut (12), Beni-Suef (10), Menoufia (10), Suez Canal (9.8), Damanhour (5.2), Sohag (4.3) and South Valley (1.6) as shown in table 3. Frequency analysis of citation of different scales was presented in Table 4. Table 4 indicated low citation counts for most of the Egyptian faculties of veterinary medicine. It was noticed that most of the cited papers from each faculty were located the grade 1-10 citations and only one paper from Cairo was cited more than 200 times.

Factors Affecting the Citation Counts

To study factors that may increase the citation counts and further visibility of publications. The relations between citation counts and the faculty oldness, total publications,

Table 2: Journal IF grade frequencies

Faculty	IF frequencies											
	Non-impact		Low		Middle		High		Very high		Extremely high	
	NO.	%	NO	%	NO	%	NO	%	NO	%	NO	%
Cairo	64	30.5	78	37.1	64	30.5	3	1.4	1	0.5	0	0.0
Assiut	18	20.0	50	55.6	22	24.4	0	0.0	0	0.0	0	0.0
Mansura	16	21.9	35	47.9	18	24.7	3	4.1	0	0.0	1	1.4
Zagazig	3	4.2	41	57.7	26	36.6	1	1.4	0	0.0	0	0.0
Alexandria	9	14.5	36	58.1	17	27.4	0	0.0	0	0.0	0	0.0
Benha	15	29.4	19	37.3	18	35.3	0	0.0	0	0.0	0	0.0
Suez Canal	8	17.8	21	46.7	15	33.3	0	0.0	0	0.0	0	0.0
Beni-Suef	1	2.4	24	58.5	14	34.1	2	4.9	0	0.0	0	0.0
Kafr El-Sheikh	4	12.9	16	51.6	11	35.5	0	0.0	0	0.0	0	0.0
South Valley	11	52.4	2	9.5	4	19.0	4	19.0	0	0.0	0	0.0
Damanhour	0	0	5	50.0	4	40.0	0	0.0	1	10.0	0	0.0
Sohag	1	33.3	1	33.3	1	33.3	0	0.0	0	0.0	0	0.0
Menoufia	1	50	0	0	1	50.0	0	0.0	0	0.0	0	0.0
Aswan	0	0	0	0	0	0.0	0	0.0	0	0.0	0	0.0
Minia	0	0	0	0	0	0	0	0	0	0	0	0

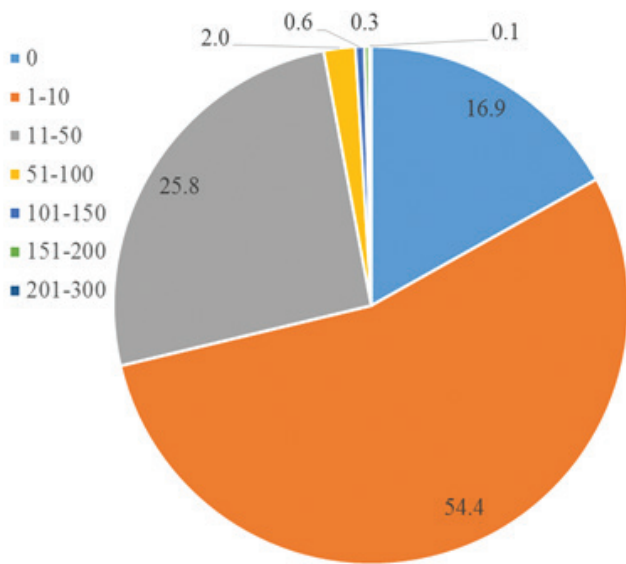


Figure 3: Citation % Frequency.

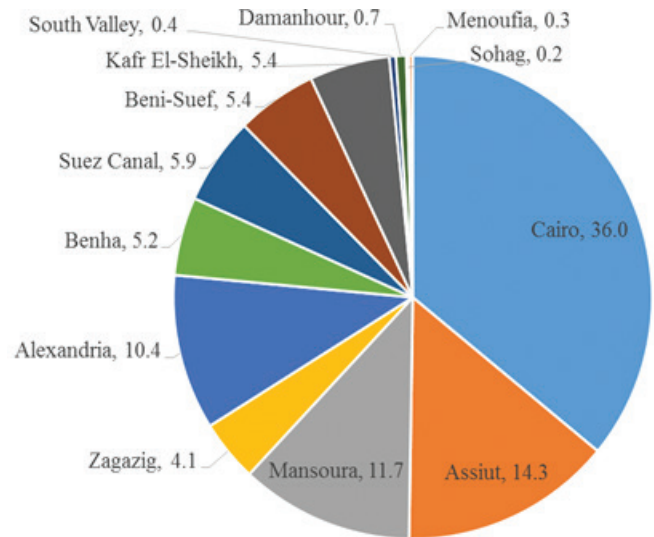


Figure 4: Contributions % of faculties to the total citation counts.

Table 3: Citation counts descriptive statistics

Faculty	Total citations	%	Mean ± SD	Min	Max
Cairo	2710	36.1	12.9±1.7	1	271
Assiut	1077	14.3	12±2.3	1	162
Mansoura	883	11.7	12.1±3.2	1	157
Zagazig	311	4.1	4.4±0.8	1	48
Alexandria	783	10.4	12.6±1.9	1	61
Benha	395	5.3	7.7±1.9	1	72
Suez Canal	441	5.9	9.8±2.4	1	72
Beni-Suef	410	5.5	10±2.6	1	82
Kafr El-Sheikh	409	5.4	13.2±3	1	80
South Valley	33	0.4	1.6±0.5	1	8
Damanhour	52	0.7	5.2±3	1	32
Sohag	13	0.2	4.3±1.5	2	7
Menoufia	20	10	10±6	4	16
Aswan	0	0	0	0	0
Minia	0	0	0	0	0

publication oldness and journal IF were further analyzed. It was found that a positive correlation between the four studied factors and the citation counts with different degrees as follow: strong linear relations with both the oldness of the faculties; $r= 0.0.841$ (Figure 5) and the total publications; $r= 0.9924$ (Figure 6), but a weak linear relations with the oldness of the publications; $r= 0.1859$ (Figure 7) and Journal IF, $r= 0.1521$ (Figure 8).

Journal List of Publications

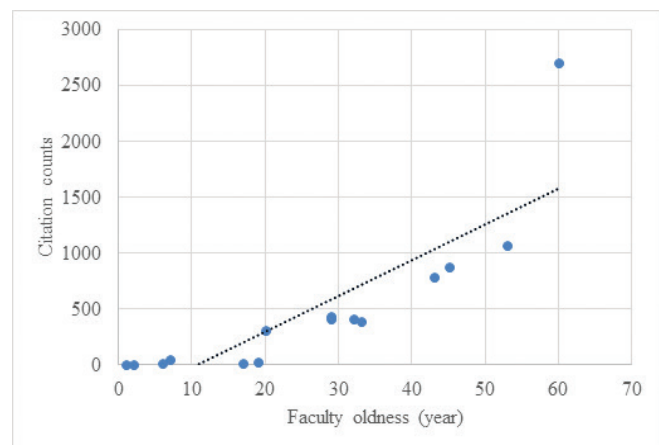


Figure 5: Correlation between citation counts and oldness of the faculties.

The 710 papers produced by the Egyptian faculties if veterinary medicine during 2000-2014 were published in 178 Pub-Med indexed journals. Only 31 (4.4%) of them were veterinary medical journals. Most frequent journal was the “J Egypt Soc Parasitol” which contained 22 academic papers from the studied faculties. Table 5 list all of these journals with their frequency of use by the academics of different faculties.

DISCUSSION

Bibliometric indicators attempt to measure the academic research quality of scientific institutions.¹³ The IF and citation counts are two main indicators of the research

Table 4: Citation count grade frequency

Faculties	Citation frequencies													
	0		1-10		11-50		51-100		101-150		151-200		200-300	
	NO	%	NO.	%	NO.	%	NO	%	NO	%	NO	%	NO	%
Cairo	24	11.4	110	52.4	69	32.9	4	1.9	2	1.0	0	0	1	0.48
Assiut	9	10.0	49	54.4	30	33.3	0	0.0	1	1.1	1	1.1	0	0
Mansoura	13	17.8	42	57.5	14	19.2	2	2.7	1	1.4	1	1.4	0	0
Zagazig	19	26.8	43	60.6	9	12.7	0	0.0	0	0.0	0	0	0	0
Alexandria	9	14.5	32	51.6	18	29.0	3	4.8	0	0	0	0	0	0
Benha	13	25.5	29	56.9	8	15.7	1	2.0	0	0	0	0	0	0
Suez Canal	6	13.3	28	62.2	9	20.0	2	4.4	0	0	0	0	0	0
Beni-Suef	12	29.3	17	41.5	11	26.8	1	2.4	0	0	0	0	0	0
Kafr El-Sheikh	5	16.1	12	38.7	13	41.9	1	3.2	0	0	0	0	0	0
South Valley	8	38.1	13	61.9	0	0	0	0	0	0	0	0	0	0
Damanhour	2	20.0	7	70.0	1	10.0	0	0	0	0	0	0	0	0
Sohag	0	0.0	3	100	0	0	0	0	0	0	0	0	0	0
Menoufia	0	0.0	3	100.0	0	0	0	0	0	0	0	0	0	0
Aswan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minia	0	0	0	0	0	0	0	0	0	0	0	0	0	0

quality and importance. The IF is a measure of the average number of citations to recent articles published in journals within a particular period. Citation count is the times of a publication mentions in other studies. Veterinary research is an important field in Egypt and the development of studies in veterinary medicine will positively affect the developing economy of Egyptians. Information science is concerning with the ranking of scientific institutions based on research quality. The current study aimed to measure the quality of the 710 research articles produced by the Egyptian faculties of veterinary medicine published in Pub-Med indexed journals between 2000 and 2014¹² by using the IF and citation count analyses. The current study revealed that 21.7% of these publications were in non-impacted journals and 78.3% were in Journal with IF ranged from 0.296 to 8.167. The majority of the publications were in Journal with low IF and seldom in high or extremely high IF journals. Cairo had the top-cumulative IF followed by Mansura, Zagazig, Assiut, Alexandria, Suez Canal, Beni-Suef, Benha, Kafr El-sheikh, South Valley, Sohag and Menoufia.

The IF is known as a quantitative measurement of the journal performance thus, the higher IF journals attract most of researchers.^{14,15} Many countries are giving reward for their scientists if they could publish in journals with high IF such as Nature, Science, and Cell,¹⁶ although,

there are many doubts about the using of IF as an indicator for evaluating the research quality.^{17,18}

On the other hand, the citation count analysis for evaluation and comparison of the research performance of individual researchers, departments, and research institutions is widely used.^{19,20} Citation count ranking could be used to evaluate the scientific institution within the same country.²¹ Citation count-based ranking of the Egyptian faculties of veterinary medicine was as follows: Cairo was on the top followed by Assiut, Mansura, Alexandria, Suez Canal, Beni-Suef, Kafr El-Sheikh, Benha, Zagazig, Menoufia, Damanhour, South Valley and Sohag. Citation counts of most publication from different faculties were low (1-10) and only one publication from Cairo were cited more than 200 times reflecting the low effect of publications from the faculty of veterinary medicine in Egypt on their international field of studies.

There were many factors affecting the citation counts as shown in this study. First, it was found a strong positive correlation between citations and faculty oldness. The older faculties like Cairo (1954) and Assiut (1958) known to have older staff with much research experiences. However, younger researchers are likely to have less scientific experiences as they are not involved for many years in research.²² Second, with an agreement with an earlier study, the current study showed that there is a strong

Table 5: List of Journals and its frequencies of use

Journals	Frequency	Journals	Frequency	Journals	Frequency
J Egypt Soc Parasitol	22	Glycoconj J	2	ISRN Vet Sci.	1
Anim Reprod Sci	18	Fish Physiol Biochem	2	Iran J Allergy Asthma Immunol	1
Anat Histol Embryol	17	Eur J Morphol	2	Integr Biol (Camb)	1
J Vet Pharmacol Ther	14	Environ Toxicol	2	Int J Parasitol.	1
Dtsch Tierarztl Wochenschr	11	Drug Metab Lett	2	Int J Neurosci	1
Br Poult Sci	11	Comp Immunol Microbiol Infect Dis	2	Int J Mol Sci.	1
Acta Histochem	9	Comp Biochem Physiol B Biochem Mol Biol	2	Int J Med Microbiol	1
Egypt J Immunol	8	Chemosphere	2	Int J Immunopathol Pharmacol	1
J Vet Med Sci	7	Cell Tissue Res	2	Int J Dermatol	1
J Vet Med A Physiol Pathol Clin Med	7	Can J Physiol Pharmacol	2	Infect Genet Evol	1
Food Chem Toxicol	7	BMC Vet Res	2	In Vitro Cell Dev Biol Anim	1
Food Chem	7	BMC Res Notes	2	Hum Reprod	1
J Vet Sci	6	Biochem Biophys Res Commun	2	Gen Physiol Biophys	1
Int J Food Microbiol	6	Berl Munch Tierarztl Wochenschr	2	Forensic Sci Med Pathol.	1
Ann Anat	6	Asian Pac J Trop Biomed	2	Food Sci Biotechnol	1
Jpn J Vet Res	5	Andrologia	2	Food Microbiol	1
J Comp Pathol	5	Anat Sci Int	2	Food Control	1
J Adv Res	5	Am J Physiol Cell Physiol	2	Folia Neuropathol	1
Foodborne Pathog Dis	5	Adv Pharmacol Sci	2	Expert Rev Proteomics	1
Fish Shellfish Immunol	5	Neurochem Int	1	Exp Parasitol	1
Environ Toxicol Pharmacol	5	Mol Ther	1	Evid Based Complement Alternat Med	1
Biol Trace Elem Res	5	Mini Rev Med Chem	1	Eur J Pharmacol	1
Basic Clin Pharmacol Toxicol	5	Microbiol Immunol.	1	Eur J Med Chem	1
Acta Trop	5	Microb Drug Resist.	1	Eur J Clin Microbiol Infect Dis	1
Microb Pathog	4	Mem Inst Oswaldo Cruz.	1	Eur J Clin Invest	1
J Vet Med B Infect Dis Vet Public Health	4	Med Sci Monit	1	Equine Vet J	1
Exp Toxicol Pathol	4	Med Mycol J	1	Epidemiol Infect.	1
Arch Toxicol.	4	Meat Sci	1	Endocr Regul	1

Table 5: List of Journals and its frequencies of use

Journals	Frequency	Journals	Frequency	Journals	Frequency
J Zoo Wildl Med	3	Mater Sociomed	1	Diabetol Metab Syndr	1
J Virol Methods	3	Lab Anim.	1	Cytotechnology	1
J Parasitol	3	Korean J Parasitol	1	Curr Microbiol	1
J Food Prot	3	Kobe J Med Sci	1	Cryo Letters	1
J Dairy Res	3	J Vet Intern Med	1	Congenit Anom (Kyoto).	1
Iran J Parasitol	3	J Vet Dent	1	Comp Biochem Physiol C Toxicol Pharmacol	1
Gene	3	J Vet Cardiol	1	CNS Neurosci Ther	1
Bull Environ Contam Toxicol	3	J Trace Elem Med Biol.	1	Clin Proteomics	1
Biomed Res Int	3	J Toxicol Environ Health	1	Chemotherapy	1
Avian Dis	3	J Sci Food Agric	1	Cell Cycle	1
Anat Rec (Hoboken).	3	J Proteomics	1	Can Vet J.	1
Oral Surg Oral Med Oral Pathol Oral Radiol	2	J Pharmacol Sci	1	Can J Neurol Sci.	1
Neurotoxicology	2	J Pharmacol Pharmacother	1	BMC Complement Altern Med	1
Nahrung.	2	J Mol Neurosci	1	Biosens Bioelectron	1
Lett Appl Microbiol	2	J Microbiol Immunol Infect	1	Biol Reprod	1
Lebenson Wiss Technol	2	J Hazard Mater	1	Biochem Cell Biol.	1
J Vet Diagn Invest	2	J Gen Virol	1	BIOCHEM BIOPH RES CO	1
J Toxicol Sci	2	J Food Sci	1	Avian Pathol	1
J Reprod Dev	2	J Endod	1	Aust Vet J	1
J Parasit Dis	2	J Diabetes Complications	1	Arch Virol	1
J Mol Histol	2	J Clin Diagn Res	1	Arch Pharm (Weinheim).	1
J Microbiol Biotechnol	2	J Chemother	1	Appl Environ Microbiol	1
J Infect Dev Ctries	2	J Cell Physiol	1	Antimicrob Agents Chemother	1
J Ethnopharmacol	2	J Biotechnol	1	Anim Sci J.	1
J Anim Physiol Anim Nutr (Berl).	2	J Biomed Sci	1	Anim Genet	1
J Am Vet Med Assoc	2	J Biol Chem	1	Anat Cell Biol	1
Int J Nanomedicine	2	J Basic Microbiol	1	Am J Vet Res	1
Int J Exp Pathol	2	J Arthropod Borne Dis.	1	Am J Infect Control	1
Int Immunopharmacol	2	J Appl Toxicol	1	Afr Health Sci	1
Infect Immun.	2	J Anim Sci	1	Acta Vet Hung	1
Indian J Pharm Sci	2	J Anat.	1	Acta Biomed	1
				Ital J Anat Embryol	1

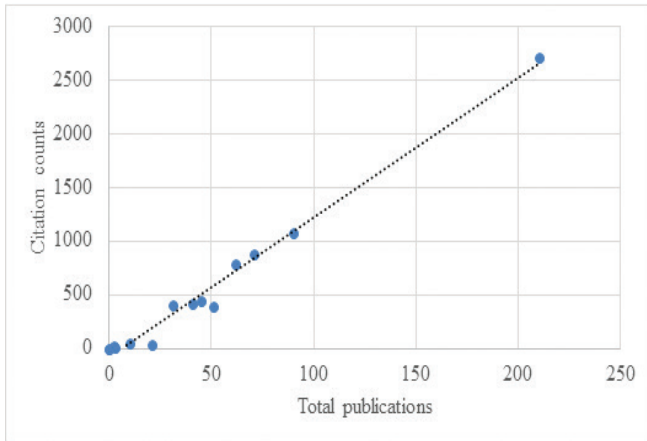


Figure 6: Correlation between citation counts and total publications.

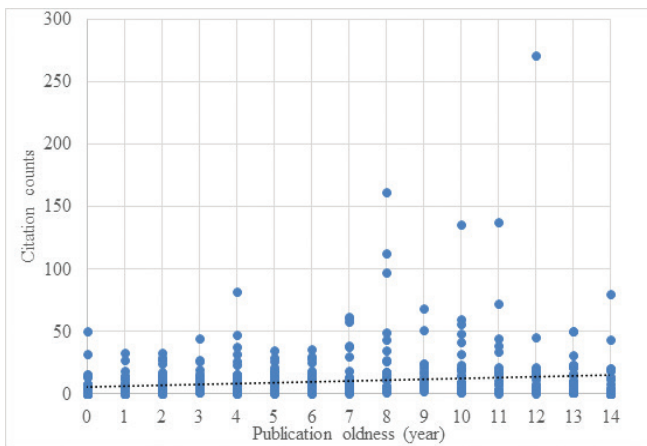


Figure 7: Correlation between citation counts and publication oldness.

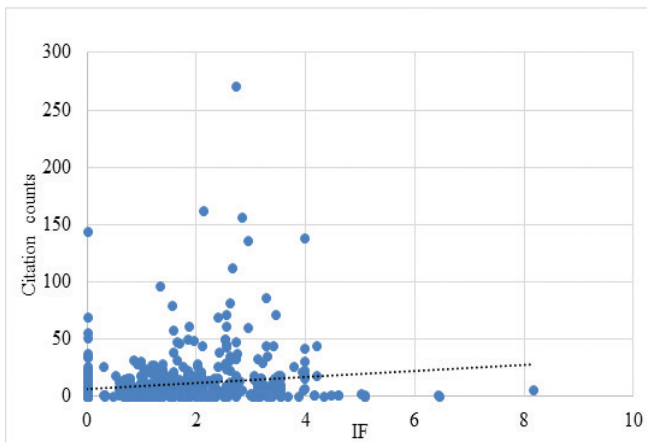


Figure 8: Correlation between citation counts and IF.

positive correlation between the citations and publication counts.²¹ Third, there was a weak correlation between the citations and publication oldness. The more important publications are usually cited even its publication date is

more recent than others and that is revealing the importance of citation counts as indicator of research quality. Fourth, a weak positive correlation between the citations and journal was recorded in this study, supporting a previous study.²³

The current study revealed that the 710 publications of the faculties of veterinary medicine¹² were published in 178 journals and only 4.4% of them were related to veterinary sciences while the majority (95.6%) were sent to non-veterinary science journals. That could be understandable when it is known that there are overlapping between many subjects in veterinary medicine with medicine and science.²⁴

Our findings could provide some references to veterinary science authorities on the quality of research came out from academics in their faculties. That may promote a positive completion between different faculties toward publication quality behind quantity. Furth more, it could be a guide for funding process of some faculties applying for scientific projects. The journal titles within and outside the veterinary medicine lists in the current study may be used as a database guidance for researchers from different faculties of veterinary medicine. The findings of the present study should serve as a starting point for deep consideration toward improvement in the research field of the faculties of veterinary medicine in Egypt. Thus, it is necessary to do yearly top-down research evaluation of the different Egyptian faculties of veterinary medicine for a needed taking decisions about short and long-term research strategies.

CONCLUSION

Overall, bibliometric studies such as the current study is needed to describe the performance and impact of the veterinary medical research in Egypt and to compare the research output of the Egyptian faculties of veterinary-Medicine.

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CONFLICT OF INTEREST

None

ABBREVIATION USED

JIF: Journal Impact Factor; ISI: Institute for Scientific Information; GS: Google Scholar, WOS: Web of Science.

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