



An International Journal (AMIJ)
Singaporean Journal of Scientific Research(SJSR)
Vol.10. No.1 2018 Pp. 18-33
available at: www.sjsronline.com
ISSN: 1205-2422
Paper Received :08-07-2018
Paper Accepted:24-08-2018
Paper Reviewed by: 1. Dr. P. Surya Prakash 2. Dr.Basu Reddy
Editor : Dr. R. Rajkumar

Scientometric Analysis of MVSc and Doctoral Dissertations of Veterinary College and Research Institute, Namakkal, Tamilnadu, India During 1995- 2016

M. SITHI JAGANNARA

Assistant Librarian
Department of Library Science
Veterinary College and Research Institute(TANUVAS)
Namakkal- 637 002.

Abstract

The paper presents the results of a study of bibliographies compiled from the theses submitted in Veterinary Science in the Veterinary College and Research Institute, Namakkal, Tamilnadu. The study permits inferences regarding trends of research approach in the field. Studies of such kind will be highly beneficial to library and information professionals in providing suitable information services to users and researchers. The study provides salient features of account of theses awarded in the field up to 2016.

Keywords: Scientometric, Doctoral Dissertations, Veterinary, Advisory Committee;

1. INTRODUCTION

SCIENTOMETRICS: In 1969, Vassily V. Nalimov & Z. M. Mulchenko coined the Russian equivalent of the term 'scientometrics' ('naukometriya') (Nalimov & Mulchenko, 1969b). Scientometrics includes all quantitative aspects of the science of science, communication in science, and science policy (Wilson, 2001). Scientometrics has typically been defined as the "quantitative study of science and technology". Scientometrics is the application of quantitative tools to the study of scientific communications (Loet Leydesdorff, 2001). According to Tague-

Sutcliffe, “Scientometrics is the study of the quantitative aspects of science as a discipline or economic activity. It is part of the sociology of science and has application to science policy-making. It involves quantitative studies of scientific activities, including, among others, publication, and so overlaps bibliometrics to some extent”. Scientometric research includes studies pertaining to scattering of articles over journals, literature, obsolescence of documents, circulation studies, author productivity, impact of research, distribution of publications by country, by language, by institutions, disciplines, types of documents, etc. In practice, Scientometrics is often done using bibliometric which is a measurement of the impact of (scientific) publications. Modern Scientometrics is mostly based on the work of Derek J. de Solla Price and Eugene Garfield. Methods of research include qualitative, quantitative and computational approaches.

2. REVIEW OF LITERATURE

Garg et al (2006) analysed the research output on Malaria during the period 1900 to 2000, using Pub Med and CABI CD-ROM which included Tropical Disease Bulletin Database. During 2005, Jeyasekar and Saravanan (2013) carried out a bibliometric study of the Journal of Forensic Sciences and found that there is an increase in publications on digital and multimedia aspects of forensic science and the literature related to application of DNA technology in forensic science is also increasing. Jones identified with the help of Web of Science (WoS) the most highly cited papers published in the Journal of Forensic Sciences between 1956 and 2005. The most highly cited paper was by Kasai, Nakamura and White concerning DNA Profiling.

Jones (2003) reviewed the impact factors of forensic science and toxicology journals and opined that the impact factors of these journals are low because the visibility and size of the circulation of these journals are low.

Sauvageau, Desnoyers and Godin (2009) studied the evolution of forensic science literature in two North American journals from 1980 to 2005 and found that forensic science literature in anthropology and DNA have increased significantly, while the contribution of questioned documents and ballistics have decreased. They also found out that the number of articles per year and the average numbers of authors per article have both increased almost two fold.

Sithi Jagannara M (2015) studied A Scientometric Analysis of Rabies Research Based On CAB Direct Database M Krishnamurthy et al (2009) studied world literature on diabetes between 1995-2004 using MEDLINE.

3. OBJECTIVES OF THE STUDY

The main objective of this study is to analyse the theses of Doctoral research on Veterinary and allied science disciplines during 1995 – 2016. The post graduate research works in terms of theses were available at library from 1995 onwards. For the past 22 years, this research institute had contributed a lot to the farming and scientific community through its research outcomes.

In particular, the study focuses on the following objectives:

1. To identify the Journals preferred for publication
2. To identify the Relevancy of advisory committee members

3. To identify the average number of articles published per thesis
4. To identify the Year-wise distribution of articles published
5. To identify the Publication of international articles based on NAAS rating / Impact Factor(IF) of journals

4. METHODOLOGY

Descriptive research design was used in this study. The theses submitted at Library, Veterinary College and Research Institute, Namakkal for the award of Ph.D. degree from 1987 to 2021 constituted the sample for the study. Purposive sampling was adopted. The theses were categorized under Basic Sciences (Anatomy, Physiology, Economics and Extension), Production (Nutrition, Genetics, Livestock Production Management, Dairy Science, Meat Science, Extension and Poultry Science), Health (Parasitology, Pathology, Microbiology, Preventive Medicine and Pharmacology) and Clinics (Obstetrics and Gyneacology, Clinical Medicine and Surgery) subjects. A total of 161 theses were Ph.D. The theses were examined from title page to appendix page for collection of data. Data extracted included year-wise distribution (in time trend – five years), gender-wise distribution, chapter-wise pages, and review of literature

5. Results and Discussion

5.1 Relevancy of advisory committee members

The relevancy of advisory committee members nominated for the research was calculated and presented in Table 15.

Table 1. Relevancy of advisory committee members

S.No.	Category	M.V.Sc.		Ph.D.	
		Relevant	Irrelevant	Relevant	Irrelevant
1	Basic sciences	16 (94%)	1 (6%)	5 (83%)	1 (17%)
2	Production	113 (74%)	39 (26%)	25 (48%)	27 (52%)
3	Health	91 (81%)	21 (19%)	27 (75%)	9 (25%)
4	Clinics	19 (70%)	8 (30%)	11 (61%)	7 (39%)
	Total	239 (78%)	69 (22%)	68 (61%)	44 (39%)

Majority of the advisory committee members of M.V.Sc. in basic science (94%) studies were relevant to the topic/subject followed by health (81%), production (74%) and clinics (70%). In Ph.D., most of the advisory committee members were relevant to the topic/subject in basic science (83%), health (75%) and clinics (61%). But, 52% of the production studies had irrelevant members to the topic / subject.

Among all theses, majority of the advisory committee members were relevant to the research topic in M.V.Sc. (78%) and Ph.D. (61%).

5.2 Research publications

Table 2. Average number of articles published per thesis

S.No.	Year	M.V.Sc.		Ph.D.	
		National	International	National	International
1	1995 – 2000	1.2	0.04	1.86	0
2	2001 – 2005	1.1	0.24	2.1	0.45
3	2006-2010	0.93	0.20	3.28	0.88
4	2011-2016	0.72	0.22	1.36	0.47
	Average	0.99	0.18	2.15	0.45

Table 16 shows that the average number of national articles published from M.V.Sc. and Ph.D. theses were 1 and 2 respectively and less than one international article was published from M.V.Sc. and Ph.D. theses.

5.3 Time trend analysis of average number of articles published per thesis

No uniform trend was noticed in all the categories both in national and international publications over the years (Figure 1).

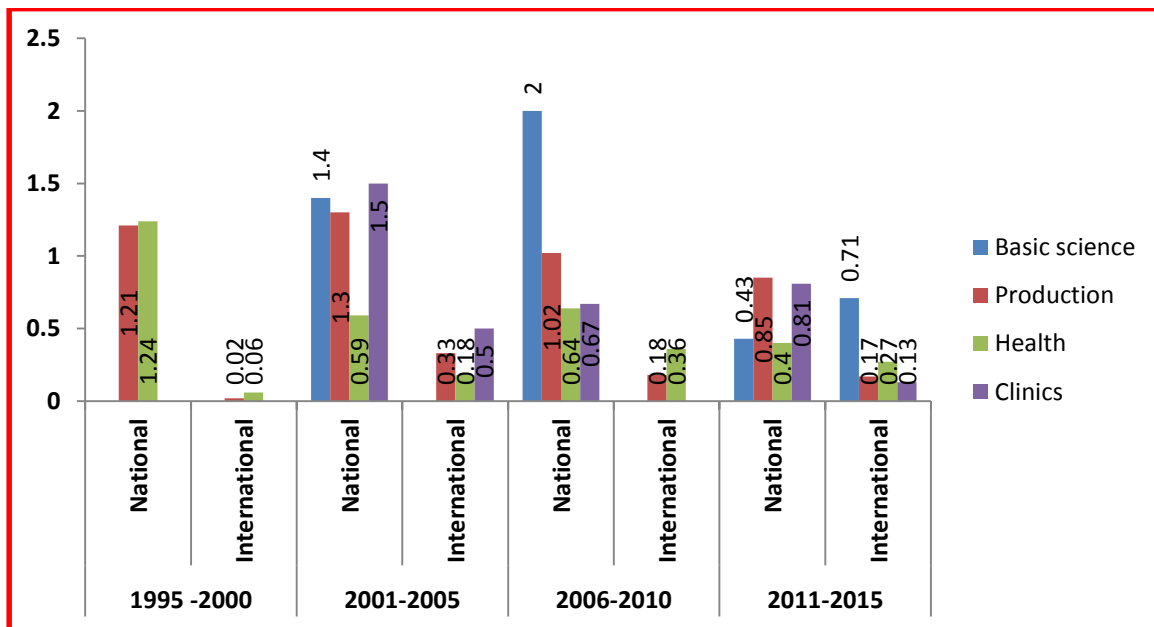


Figure 1. Time trend analysis of average number of articles published per M.V.Sc. thesis

More number of national articles were published from 2001 to 2010.

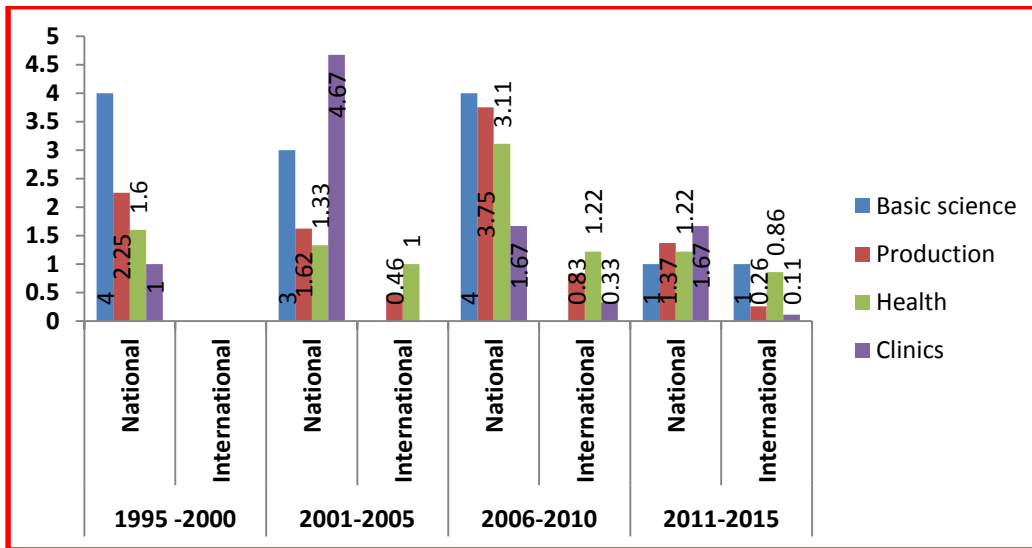


Figure 2. Year-wise distribution of articles published per Ph.D. thesis

From Figure 18 it could be inferred that varying trend was noticed in all the categories over the years in national article publication. There was no international publication during the period 1995-2000 in all the categories. Increased trend was noticed in production, health and clinical subjects from 2001 to 2010 but there was no international publication in basic sciences. Decreasing trend was noticed in production, health and clinical subjects for the period 2011-2015, but it was increased in basic sciences.

5.4 Journal preference for publication

The journals preferred by the researcher to publish the theses contents were sourced out, classified into national and international. The percentage of articles published in each journal was calculated and presented in Table 3.

Table 3. Journals preferred for publication

S. No	Name of the Journal	No. of articles	Percentage
National			
1	Advances in Veterinary and Animal Sciences	2	0.37
2	Animal Nutrition and Feed Technology	5	0.93
3	Applied Animal Husbandry and Rural Development Journal	1	0.19
4	Asian Journal of Science and Technology	4	0.75
5	Asian-Agri History	2	0.37
6	Buffalo Journal	1	0.19

7	Food Science Research Journal	1	0.19
8	Indian Food Industry	1	0.19
9	Indian Journal of Agricultural Research	1	0.19
10	Indian Journal of Animal Health	3	0.56
11	Indian Journal of Animal Nutrition	4	0.75
12	Indian Journal of Animal Reproduction	10	1.87
13	Indian Journal of Animal Research	9	1.68
14	Indian Journal of Animal Research Science	1	0.19
15	Indian Journal of Animal Science	43	8.02
16	Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases	3	0.56
17	Indian Journal of Dairy Science	3	0.56
18	Indian journal of Drugs and Diseases	1	0.19
19	Indian Journal of Field Veterinarian	14	2.61
20	Indian Journal of Poultry Science	56	10.45
21	Indian Journal of Science and Technology	3	0.56
22	Indian Journal of Small Ruminants	10	1.87
23	Indian Journal of Social Research	6	1.12
24	Indian Journal of Veterinary Anatomy	9	1.68
25	Indian Journal of Veterinary and Animal Sciences Research (TNJVAS, Cheiron)	49	9.14
26	Indian Journal of Veterinary Pathology	11	2.05
27	Indian Journal of Veterinary Surgery	9	1.68
28	Indian Veterinary Journal	189	35.26
29	Intas Polivet	2	0.37
30	Journal of Environment Biological Sciences	1	0.19
31	Journal of Agricultural and Veterinary Science	1	0.19
32	Journal of Animal Research	2	0.37
33	Journal of Applied Science Research	3	0.56
34	Journal of Cell and Tissue Research	2	0.37
35	Journal of Dairying, Foods & Home Sciences	1	0.19
36	Journal of Environment and Bio Sciences	19	3.54
37	Journal of Extension Education	20	3.73

38	Journal of Food Science and Technology-Mysore	1	0.19
39	Journal of Inter Academicia	1	0.19
40	Journal of Krishi Vigyan Kendra	1	0.19
41	Journal of Meat Science	1	0.19
42	Journal of Parasitic Diseases	1	0.19
43	Journal of Pure Applied Microbiology	1	0.19
44	Journal of Veterinary Parasitology	6	1.12
45	Journal of Veterinary Science & Technology	1	0.19
46	Research Journal of Agricultural Sciences	2	0.37
47	The North – East Veterinarian	1	0.19
48	Tropical Animal Health and Production	1	0.19
49	Veterinary World	17	3.17
	Total	536	
	International		
1	Acta Virologica	1	1.01
2	Applied Nano Science	1	1.01
3	Asian Journal of Animal and Veterinary Advances	1	1.01
4	Asian Journal of Pharmaceutical and Clinical Research	2	2.02
5	Asian Pacific Journal of Tropical Biomedicine	2	2.02
6	Avian Pathology	2	2.02
7	Bio Resource Technology	1	1.01
8	Brazilian Journal of Microbiology	1	1.01
9	Brazilian Journal of Veterinary Pathology	1	1.01
10	British Veterinary Journal	1	1.01
11	Buffalo Bulletin	2	2.02
12	Cell & Tissue Research	1	1.01
13	Cytologia	1	1.01
14	Egyptian Journal of Dairy Science	4	4.04
15	FAO/IAEA 2011	1	1.01
16	International Journal of Advance Veterinary Science	2	2.02
17	International Journal of Environmental Toxicology	2	2.02
18	International Food Research Journal	4	4.04

19	International Journal of Current Research	1	1.01
20	International Journal for Agro Veterinary and Medical Sciences	1	1.01
21	International Journal of Advanced Veterinary Science and Technology	5	5.05
22	International Journal of Agriculture and Biosciences	1	1.01
23	International Journal of Applied Management Research	1	1.01
24	International Journal of Food and Nutritional Sciences	1	1.01
25	International Journal of Food, Agriculture and Veterinary Sciences	3	3.03
26	International Journal of Human Resources Management & Research	1	1.01
27	International Journal of Livestock Research	1	1.01
28	International Journal of Poultry Science	12	12.12
29	International Journal of Science and Nature	1	1.01
30	International Journal of Science, Environment and Technology	21	21.21
31	Israel Journal of Veterinary Medicine	1	1.01
32	Journal of Advances Veterinary Research	1	1.01
33	Journal of American Oil Chemists Society	1	1.01
34	Journal of World's Poultry Research	1	1.01
35	Livestock Research and Rural Development	1	1.01
36	Pakistan Veterinary Journal	1	1.01
37	Poultry Science	1	1.01
38	Research Journal of Agriculture and Biological Science	2	2.02
39	Shanlax International Journal of Veterinary Science	4	4.04
40	Springer Plus	1	1.01
41	Toxicology International	1	1.01
42	Veterinary Archives	4	4.04
43	World Journal of Pharmaceutical Research	1	1.01
	Total	99	

From Table 3, it could be interpreted that 536 national articles were published in 49 journals and 99 international articles were published in 43 journals. Out of the articles published in national journals, 35.26% of the articles were published in Indian Veterinary Journal followed by Indian Journal of Poultry Science (10.45%), Indian Journal of Veterinary and Animal Sciences Research (9.14%), Indian Journal of Animal Sciences (8.02%) and Journal of Extension Education and Journal of Environment and Biosciences (each 4%).

Most of the international articles were published in International Journal of Science, Environment and Technology (21.21%) followed by International Journal of Poultry Science (12.12%), International Journal of Advanced Veterinary Science and Technology (5.05%) and Egyptian Journal of Dairy Science, International Food Research Journal, Shanlax International Journal of Veterinary Science and Veterinary Archives (each 4%).

5.5 Publication of articles based on NAAS rating / impact factor of journals

Journals were categorized into national and international. Based on the NAAS rating / impact factor of journals for the year 2017, the number of articles published in the journals were categorized and given below

5.5.1 National articles published

Table 5. Publication of national articles based on NAAS rating / impact factor of journals

Journal Name	No. of articles	NAAS rating / Impact factor
The North – East Veterinarian	1	2.61
Indian Journal of Social Research	6	3
Asian-Agri History	2	3.1
Indian Journal of Animal Reproduction	10	3.43
Journal of Extension Education	20	3.55
Journal of Inter Academicia	1	3.96
Indian Journal of Animal Health	3	4.08
Food Science Research Journal	1	4.11
Journal of Dairying, Foods & Home Sciences	1	4.2
Journal of Meat Science	1	4.22
Journal of Krishi Vigyan Kendra	1	4.41
Indian Journal of Veterinary Anatomy	9	4.42
Indian Journal of Veterinary and Animal Sciences Research (TNJVAS, Cheiron)	49	4.42
Indian Veterinary Journal	189	4.42
Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases	3	4.49
Research Journal of Agricultural Sciences	2	4.54
Intas Polivet	2	4.79
Indian Journal of Agricultural Research	1	4.86
Journal of Pure Applied Microbiology	1	5
Indian Journal of Animal Nutrition	4	5.02

Indian Journal of Small Ruminants	10	5.25
Indian Journal of Veterinary Surgery	9	5.25
Indian Journal of Dairy Science	3	5.26
Indian Journal of Veterinary Pathology	11	5.48
Journal of Animal Research	2	5.68
Veterinary World	17	5.71
Indian Journal of Animal Research	9	6.09
Indian Journal of Animal Science	43	6.17
Animal Nutrition and Feed Technology	5	6.25
Tropical Animal Health and Production	1	6.87
Journal of Food Science and Technology-Mysore	1	7.25
Advances in Veterinary and Animal Sciences	2	IF - 0.25
Applied Animal Husbandry and Rural Development Journal	1	-
Asian Journal of Science and Technology	4	-
Buffalo Journal	1	-
Indian Food Industry	1	-
Indian Journal of Animal Research Science	1	-
Indian journal of Drugs and Diseases	1	-
Indian Journal of Field Veterinarian	14	-
Indian Journal of Poultry Science	56	-
Indian Journal of Science and Technology	3	-
Journal of Environment Biological Sciences	1	-
Journal of Agricultural and Veterinary Science	1	-
Journal of Applied Science Research	3	-
Journal of Cell and Tissue Research	2	-
Journal of Environment and Bio Sciences	19	-
Journal of Parasitic Diseases	1	-
Journal of Veterinary Parasitology	6	-
Journal of Veterinary Science & Technology	1	-

Table 6. National articles published based on NAAS / impact factor
(n=536)

S.No.	NAAS / impact factor	Number	Percentage
1	NAAS rating upto 3.0	7	1.30
2	NAAS rating 3.1 to 5.0	296	55.22

3	NAAS rating above 5.0	115	21.45
4	Impact factor upto 0.5	2	0.37
5	Without NAAS / impact factor	116	21.64

Among 536 articles published in national journals, more than half (55.22%) of published in the journals with the NAAS rating of 3.1 to 5.0, followed by above 5.0 (21.45%) and up to 3.0 (1.30%). A meager 0.37% of the articles were published in the journals with impact factor up to 0.5. The remaining 21.64% of the articles were published in the journals without NAAS / impact factor (Table 19).

5.5.2 International articles published

Table 7. Publication of international articles based on NAAS rating / impact factor of journals

Journal Name	No. of articles	NAAS rating / Impact factor
Asian Journal of Pharmaceutical and Clinical Research	2	3.33
International Journal of Human Resources Management & Research	1	3.38
International Journal of Science and Nature	1	3.7
International Journal of Science, Environment and Technology	21	3.98
Journal of World's Poultry Research	1	4.79
Toxicology International	1	5.23
International Journal of Livestock Research	1	5.36
Buffalo Bulletin	2	6.07
Cytologia	1	6.23
Israel Journal of Veterinary Medicine	1	6.29
Veterinary Archives	4	6.32
Pakistan Veterinary Journal	1	6.82
Asian Pacific Journal of Tropical Biomedicine	2	6.84
Brazilian Journal of Microbiology	1	6.87
Acta Virologica	1	7.22
Avian Pathology	2	7.34
International Journal of Food and Nutritional Sciences	1	7.45
Poultry Science	1	7.69
Cell & Tissue Research	1	8.95

Bio Resource Technology	1	10.92
International Journal of Poultry Science	12	IF- 0.32
World Journal of Pharmaceutical Research	1	IF- 0.45
Shanlax International Journal of Veterinary Science	4	IF- 0.54
International Food Research Journal	4	IF- 0.77
Journal of American Oil Chemists Society	1	IF- 1.51
International Journal of Advanced Veterinary Science and Technology	5	IF- 2.32
Applied Nano Science	1	-
Asian Journal of Animal and Veterinary Advances	1	-
Brazilian Journal of Veterinary Pathology	1	-
British Veterinary Journal	1	-
Egyptian Journal of Dairy Science	4	-
FAO/IAEA 2011	1	-
International Journal of Advance Veterinary Science	2	-
International Journal of Environmental Toxicology	2	-
International Journal of Current Research	1	-
International Journal for Agro Veterinary and Medical Sciences	1	-
International Journal of Agriculture and Biosciences	1	-
International Journal of Applied Management Research	1	-
International Journal of Food, Agriculture and Veterinary Sciences	3	-
Journal of Advances Veterinary Research	1	-
Livestock Research and Rural Development	1	-
Research Journal of Agriculture and Biological Science	2	-
Springer Plus	1	-

Table 8. International articles published based on NAAS / impact factor
(n=99)

S.No.	NAAS / impact factor	Number	Percentage
1	NAAS rating up to 3.0	0	0
2	NAAS rating 3.1 to 5.0	26	26.26
3	NAAS rating above 5.0	21	21.21
4	Impact factor up to 0.5	13	13.13
5	Impact factor 0.5 to 1.0	8	8.08

6	Impact factor above 1.0	6	6.06
7	Without NAAS / impact factor	25	25.25

Among 99 articles published in international journals 26.26% and 21.21% of the articles were published in the journals with the NAAS rating of 3.1 to 5.0 and above 5.0 respectively. While considering the impact factor, 13.13%, 8.08% and 6.06% of the articles were published in the journals with the impact factor up to 0.5, 0.5 to 1.0 and above 1.0 respectively. One-fourth (25.25%) of the articles were published in the journals without NAAS / impact factor (Table 7).

5.6 Number of pages

5.6.1 Chapter-wise pages

Minimum and maximum range of pages for each chapter was calculated and given in Table 8.

Table 8. Chapter-wise pages of M.V.Sc. theses in range

S. No.	Category	M.V.Sc.						Total
		Introduction	Review	Methodology	Results & Discussion	Summary & Conclusion	References	
1	Basic Sciences	2-5	11-35	2-15	20-66	2-6	5-20	55-121
2	Production	1-6	7-34	3-21	9-68	2-13	3-19	44-123
3	Health	2-6	7-35	3-36	12-66	1-5	4-34	47-122
4	Clinics	2-4	10-35	4-44	21-59	2-4	4-23	55-121
	Overall range	1-6	7-35	2-44	9-68	1-13	3-34	44-123

The minimum and maximum overall range was high in all the chapters from introduction to references. The range of total pages in all the categories were almost similar to that of overall range of total pages i.e. 44 to 123 pages, but the maximum page was almost thrice that of minimum page (Table 8).

Table 9. Chapter-wise percentage of pages to total pages of M.V.Sc. theses

S. No.	Category	M.V.Sc.					
		Introduction	Review	Methodology	Results and Discussion	Summary and Conclusion	References
1	Basic sciences	4	24	10	44	4	14
2	Production	3	24	13	41	5	10
3	Health	3	23	15	38	4	14

4	Clinics	3	24	14	42	4	13
	Overall average	3	24	14	40	4	12

There was not much difference noticed in the percentage of pages to total pages in all the categories and chapters to the overall average pages (Table 10).

Table 10. Chapter-wise pages of Ph.D. theses in range

S. No.	Category	Ph.D.						
		Intro duction	Review	Metho dology	Results & Discussio n	Summary & Conclusio n	Refer ences	Total
1	Basic sciences	3 - 7	24 - 35	5 -26	38 - 88	4 -9	14 -32	115 -173
2	Production	2 -10	11 -82	7- 35	22 - 123	2 -18	4 -33	82 -218
3	Health	2 -5	16 -58	6 -42	28 -123	1 -7	6 -32	88 - 236
4	Clinics	2 - 5	30 - 65	8- 25	50-105	3-6	9-36	128-221
	Overall range	2-10	11-82	5-42	22-123	1-18	4-36	82-236

The minimum and maximum overall range in Ph.D. theses was high in all the chapters from introduction to references. The range of total pages in basic sciences and clinics were varying to that of overall range of total pages. The maximum page was almost thrice that of minimum page (Table 10).

Table 11. Chapter-wise percentage of pages to total pages of Ph.D. theses

S. No.	Categor y	Ph.D.					
		Introd uction	Review	Metho dology	Results & Discussion	Summary and Conclusion	References
1	Basic sciences	4	24	10	44	4	14
2	Producti on	3	24	13	41	5	10
3	Health	3	23	15	38	4	14
4	Clinics	3	24	14	42	4	13
	Overall average	2	24	12	44	3	12

There was not much difference noticed in the percentage of pages to total pages in all the categories and chapters to the overall average pages (Table 11).

In M.V.Sc. and Ph.D. theses similar trend was noticed in percentage of pages to total pages.

6. Conclusion

The study gives interesting and important findings with regards to the various information sources used by scholars. Important areas of research and salient features of research theses are identified. This study allows inferences regarding research approach and citation behaviour to be drawn. Findings presented in this study can be regarded as a case study. Similar dissertation analyses can be done in other subject fields as well as in other institutions. It is hoped that this study will be helpful to researchers who want to identify primary sources of information. Studies of this kind will be helpful for library and information professionals who want to provide suitable services for users and researchers. It can also serve as a feedback to librarians in the selection and acquisition of documents most useful to researchers in Veterinary science.

Reference

- [1] Garg, K.C.; Kumar, S.; Madhavi, Y.; and Bahl, M. (2009). Bibliometrics of global malaria vaccine research. *Health Information and Libraries*, 26 (1): 22-31
- [2] Jeyasekar, J.J. and Saravanan, P. 2013. *Journal of forensic sciences: A bibliometric study for the period 2006 to 2010*. Paper presented in the Second National Conference on Scientometrics and Knowledge Management, April, 2013. Dharwad, India.
- [3] Jones, A.W. 2003 Impact factors of forensic science and toxicology journals: What do the numbers really mean. *Forensic Science International*, Vol. 133, No.1: 1-8
- [4] Sauvageau, A; Desnoyers, S and Godin, A. 2009. Mapping the Literature in Forensic science: A Bibliometric Study of North-American Journals from 1980 to 2005. *The Open Forensic Science Journal*, 2: 41-46.
- [5] M. Sithi Jagannara(2015); A Scientometric Analysis of Rabies Research Based On CAB Direct Database. *Journal of Advances in Library and Information Science* ISSN: 2277-2219 Vol. 4. No.3. 2015. pp. 206-209
- [6] Krishnamoorthy, G.; Ramakrishnan, J.; and Devi, S. (2009). Bibliometric analysis of Diabetes (1995- 2004). *Annals of Library and Information Studies*, 56 (3): 150-155.
- [7] Sudhier, K G Pillai, and Kumar, V Dileep (2010). Scientometric Study of Doctoral Dissertations in Biochemistry in University of Kerala, India. *Library Philosophy and Practice (e-journal)* June, (2010). Available: <http://digitalcommons.unl.edu/libphilprac/>
- [8] Tonta, Y., & Al, U. (2006). Scatter and obsolescence of journals cited in theses and dissertations of librarianship. *Library & Information Science Research* 28 : 281-296. University of Kerala. Available: <http://www.keralauniversity.edu/> Waugh,
- [9] C. K., & Ruppel, M. (2004). Citation analysis of dissertations, thesis and research paper references in workforce education and development. *The Journal of Academic Librarianship* 30 (4): 276- 284.
- [10] Gooden, A. M. (2001). Citation analysis of chemistry doctoral dissertations: An Ohio State University case study. *Issues in Science and Technology Librarianship* 32 . Available: www.istl.org/istl/oi-fall/referred.html
- [11] Haycock, L. A. (2004). Citation analysis of education dissertations for collection development: *Library Resources and Technical Services* 48(2): 120-06. Available: <http://www.ala.org/ala/mgrps/divs/atcts/resources/lrts/archives/48n2.pdf>
- [12] Krishna, K. M., & Kumar, S. (2004). Authorship trends in agriculture research: A bibliometric analysis. *SRELS Journal of Information Management* 41 (2): 229-234.

- [13] Mahapatra, R. K., & Sahoo, J. (2004). Doctoral dissertations in library and information science in India 1997-2003: A study. *Annals of Library and Information Studies* 51 (1): 58-63.
- [14] Mangla, A. H., & Seema, S. D. (2002). Citation analysis of doctoral research in Economics. *ILA Bulletin* 38 (2): 36-45.
- [15] Nabe, J., & Imre, A. (2008). Dissertation citation in organismal biology at Southern Illinois University at Carbondale: Implications for collection development. *Issues in Science and Technology Librarianship* . Available: <http://www.istl.org/08-fall/refereed.html>
- [16] Naidu, G. H. S., Chouhan, P., & Prasher, P. (2003). Bibliometric study of the literature cited in the doctoral dissertations in the Faculty of Biological Sciences (1999-2003). *Indian Journal of Information, Library & Society* 16 (1&2): 53-65.
- [17] Okiy, R. B. (2003). Citation analysis of education dissertations at the Delta State University, Abraka, Nigeria. *Collection Building* 22 (4). Available: <http://www.emeraldinsight.com/10.1108/01604950310501735>
- [18] Sam, J., & Tackie, S.B. (2007). Citation analysis of dissertations accepted by the Dept. of Information studies, University of Ghana, Legon. *African Journal of Library & Information Science* 17 (2):117-124.