



# Analysis of Doctoral theses available at Library, Veterinary College and Research Institute, Namakkal – A Scientometric Study (1987-2021)

**M. Sithi Jagannara**

Assistant Librarian

Veterinary College and Research Institute(TANUVAS)

Namakkal 637 002

**Abstract:** The present study thoroughly explored the research output of the Tamil Nadu Veterinary college and Research Institute Namakkal during 1987-2021 (35 Years) since its origin; the research design is based on secondary data using a range of bibliometric and scientometric tools, techniques and formula along with statistical techniques. The major objectives are framed with the exclusive notion of the present study such as (i) Analysis of Doctoral theses available at Library, Veterinary College and Research Institute, Namakkal.

**Keywords:** Doctoral Theses, Scientometric study, research Tool, statistical Technique;

## 1. INTRODUCTION

Scientometrics is a discipline to analyse scientific publications and citations appended to the papers to gain an understanding of the structure of science, growth of science at world level, performance of a country in a particular domain, performance of institutions, departments/divisions and scientific eminence of an individual scientists. Scientometrics is concerned with the quantitative features and characteristics of science and scientific research. Emphasis is placed on investigations in which the development and mechanism of science are studied by statistical mathematical methods.

## 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 1987 – 2021. The post graduate research works in terms of theses were available at library from 1987 onwards. For the past 34 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 year-wise distribution of Doctoral research
2. To identify the author -wise distribution
3. To identify the Chairman -wise distribution
4. To identify the Category- wise distribution
5. To identify the Gender –wise, chapter-wise pages and review of literature distribution

## 5. 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

## 6. FINDINGS

The collected data were tabulated, analyzed and the results are presented below.

Table .1 Year wise Doctoral theses Submitted

S. No	Year	No.of Theses submitted	Rank
1	1987-1991	6	7
2	1992-1996	10	6
3	1997-2001	26	3
4	2002-2006	18	5
5	2007-2011	19	4
6	2012-2016	46	1
7	2017-2021	36	2
	Total	161	

The table 1 shows that the maximum doctoral research work was carried out during the period 2012 to 2016 as 46,36 on 2017 to2021,19 on 2007 to 2011 and so on. The minimum of research work was carried out during the period from 1987 to1991.

Table.2. Gender wise in Authorship Pattern

S.No	Gender	No. of authors	%
1	Male	136	84.4
2	Female	25	15.5
	Total	161	100

The table 2 shows that the gender wise analysis of authorship pattern, male gender occupied the maximum doctoral research work of chairman ship compared to female chairman ship.

Table 3. Category wise theses submitted during the analysis period

S.No	Category	No.of theses Submitted	Rank
1	Basic Science	21	4
2	Health	49	2
3	Production	64	1
4	Clinics	27	3
	Total	161	

The table 3 shows that the research work was classified under Category wise as Basic science, Health, Production and Clinics .Based on the analysis, The production department occupied the first place, followed by health as 49, followed by clinics as 27 and basic science as 21.

Table.4 Gender wise chairman ship pattern

S.No	Gender	No. of authors	%
1	Male	47	84.4
2	Female	3	15.5
Total		50	100

Table 4 shows that the gender wise contribution of chairman ship pattern. The maximum contribution as chairman is male gender 84.4% and female gender is 15.5%.

Table.5. Theses submitted under basic science

S.No	Department	No.of theses	Rank
1	Veterinary Anatomy	3	3
2	Animal husbandry Economics	1	4
3	Animal Husbandry Extension	11	1
4	Veterinary Physiology	6	2
Total		21	

The table 5 shows that animal husbandry extension was attained the first position and 11 researchers awarded during the the period 1987 to 2021 ,11 in Animal Husbandry Extension,6 in Veterinary Physiology and 3 in veterinary anatomy.

Table 6 Theses submitted under Health

S.No	Department	No. of theses	Rank
1	Animal Genetics and Breeding	7	5
2	Vet. Microbiology	13	1
3	Vet. Pathology	9	3
4	Vet. Parasitology	7	4
5	Vet. Pharmacology	9	3
6	Preventive Medicine	11	2
Total		56	

The table 6 shows that veterinary microbiology was attained the first position and 13 researchers awarded during the period 1987 to 2021, 11 in preventive Medicine 9 in veterinary pathology and vet. Pharmacology and so on.

Table 7 Theses submitted under Clinics

S.No	Department	No.of theses	Rank
1	Clinical Medicine	9	1
2	Veterinary Surgery an Radiology	9	1
3	Veterinary Obstetrics and gynaecology	9	1
Total		27	

The table 7shows that all clinical subjects as vet. Medicine, vet. Surgery and vet. obstetrics and gynaecology contributed equally in their doctoral research work

Table 8. Theses submitted under Production

S.No	Department	No.of theses	Rank
1	Animal Genetic sand Breeding	7	5
1	Poultry science	17	1
2	Livestock production and management	10	3
3	LPT(Dsc)	11	2
4	LPT(MST)	10	3

The table 8 shows that Poultry science was attained the first position and 17 researchers awarded during the period 1987 to 2021 ,11 in LPT(Dsc), 10 in LPM and LPT (MST)and 7 in Animal genetic and breeding.

Table .9.Rank wise chairman ship

S.No	Chairman	Contribution	Rank
1	Dorairajan N	8	1
2	Viswanathan K	6	2
3	Ramesh Saravana Kumar.V	6	
9	Annal Villi R	5	
10	Others	Below5	4

The table 9 shows that Dorairajan V served as Chairman ship for 8 scholars and occupied the highest position. Remains Viswanathan K, Ramesh saravana kumar, ,Anal Villi and others occupied sub sequent positions.

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

S. No.	Category	Ph.D.						Total
		Introd uction	Review	Methodo logy	Results & Discussion	Summary & Conclusion	Refere nces	
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
	<b>Overall range</b>	<b>2-10</b>	<b>11-82</b>	<b>5-42</b>	<b>22-123</b>	<b>1-18</b>	<b>4-36</b>	<b>82-236</b>

The table 10 shows that 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 11.Chapter-wise percentage of pages to total pages of Ph.D. theses**

S. No.	Category	Ph.D.					
		Introduc tion	Review	Methodo logy	Results & 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
	<b>Overall average</b>	<b>2</b>	<b>24</b>	<b>12</b>	<b>44</b>	<b>3</b>	<b>12</b>

The table11 shows that 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.

## Review of literature

### Total number literatures and span of years

The total number of literatures quoted in the theses were analysed and classified into range, span of years (difference between latest to old literatures) in range and average.

**Table -12.Total number of literatures and span of years of Ph.D. theses**

S. No.	Category	Total number of literatures (Range)	Span of years	
			(Range)	Average years
1	Basic sciences	121-262	45 -89	64
2	Production	36-343	29-104	57
3	Health	71-286	26-207	70
4	Clinics	69-411	30-93	53
	<b>Overall</b>	<b>36-411</b>	<b>26-207</b>	<b>61</b>

The table 12 shows that the Ph.D. theses also wide range was noticed in total number of literatures and span of years. The minimum number of literature quoted was 36 and the maximum was 411. Similarly minimum and maximum range in span of years was 26 and 207 years respectively from the year 1805 - 2015. The average years of literature reviewed was higher in health subjects and lower in clinical subjects than the overall average

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