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Bibliometric Analysis of Ph.D. theses submitted to Bansthali Vidyapith on Bioscience and Chemical Science

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ABSTRACT

In this paper, the analysis of Ph.D. theses has been done, which are submitted to Banasthali Vidyapith. The thesis submitted in the subject domain of Bioscience and chemical sciences were considered. It was found that there 210 Theses in bioscience and 191 in chemical science. In Biosciences, 37 theses are contributed by male and females are dominating with 173 thesis. These theses were guided by 99 supervisors. In the domain of chemical sciences, again females were dominating with 150 theses and only 41 theses credited to males. The total supervisors are 58. Prof. Vinay Sharma is on top for supervising 50 scholars in the field of biosciences. In the field of chemical sciences Prof. D. Kishore has supervised 56 scholars.

KEYWORDS: Bibliometrics, Biosceince, Chemical Science, Ph.D. Thesis, Keywords Analysis.

INTRODUCTION

The biological and chemical sciences form the basis of areas of biology, the study of life, and chemistry, the study of matter. Bioscience is a diverse field of study and focuses on developing biological solutions which can sustain, restore, and improve the quality of life. The Chemical science is the branch of the natural sciences, which emphasis on the composition of substances and their properties and reactions. Thus, both fields in correlation together can improve the quality of life. Ph.D. thesis is one of the bases for developing the knowledge. In this work, the Analysis of Ph.D. thesis submitted to Bansthali Vidyapith on Bioscience and Chemical Science.

Banasthali Vidyapith was started by Shri Shantabai Shiksha Kutir in 1935, in the memory of Social worker, Shantabai. The name Banasthali Vidyapith was adopted in 1943, when the undergraduate courses were started. In 1983, the UGC promoted it to deemed university. The aim of them was to have a balanced development of the students through Panchmukhi Shiksha. Banasthali Vidyapith imparts the education from the school to the highest degree i.e. Ph.D.

The evolution of Vidyapith is going on rapidly and there are many scholars working there in almost all the disciplines. Henceforth, in this paper a Bibliometric analysis have been applied to observe the growth patterns of research going in the field of Biosceince and Chemical Science in Bansthali Vidyapith [1].

RESEARCH METHODOLOGY

Bibliometric analysis is defined as a statistical evaluation of published scientific literature and it is an efficient way to measure the impact of publication in the scientific community. In this work, the Ph.D. theses in the field of Bioscience and Chemical Science has been scanned one by to analyze. The analysis has been carried out to evaluate the

- Year wise growth of the thesis
- Most leading supervisor
- Keyword analysis

DATA ANALYSIS AND INTERPRETATION

The analysis reveals that total 401 theses have been submitted in Banasthali Vidyapith till 2019. 210 in Bioscience and 191 with Chemical Science. In Bioscience maximum theses (32) were submitted in the year of 2012 then 30 thesis are submitted in the year 2013.

Table 1 Year wise growth of thesis produces by Bioscience

Year	No. of Thesis	Cumulative	In %
2002	3	3	1.43
2003	1	4	0.48
2005	1	5	0.48
2006	2	7	0.95
2007	4	11	1.90
2008	2	13	0.95
2009	7	20	3.33
2010	14	34	6.67
2011	15	49	7.14
2012	32	81	15.24
2013	30	111	14.29
2014	16	127	7.62
2015	24	151	11.43
2016	8	159	3.81
2017	25	184	11.90
2018	16	200	7.62
2019	10	210	4.76

Supervisors play an important role in the tenure of Ph.D. by showing the path to the students. Table 2 shows the top supervisors in the field of Bioscience. The Vinay Sharma is at the top for supervising 50 theses, followed by Veena Sharma for supervising 25 theses. 80 theses were guided by two supervisor and 5 thesis guided by 3 supervisors.

TABLE 2. Top Rank supervisor in Bioscience

Rank	Guide	No. of Thesis	In %
1	Vinay Sharma	50	23.81
2	Veena Sharma	25	11.90
3	Veena Garg	15	7.14
4	Bhumi Nath Tripathi	13	6.19
5	Afroz Alam	12	5.71
6	Nilima Kumari	10	4.76
7	G S Shekhawat	8	3.81
8	Swapnil Sharma	8	3.81
9	Jyoti Saxena	8	3.81
10	Ashok Munjal	7	3.33
11	Suphiya Khan	7	3.33

Table 3 shows the keyword analysis of the thesis in the field of Bioscience. For this title was broken into keywords and total 5892 words were extracted, on applying filter the meaningful keywords were 2145, out of which unique for 1007. The top keywords are characterization, Molecular stress response, analysis.

TABLE 3. Top Rank keywords from Title for Bioscience

Rank	Bioscience Studies	No. of Records	In %
1	Characterisation	40	1.86
2	Molecular	39	1.82
3	Stress	25	1.17
4	Response	21	0.98
5	Analysis	20	0.93
6	Mice	19	0.89
7	Biochemical	17	0.79
8	Genes	17	0.79
9	Studies	17	0.79
10	Development	15	0.70
11	Expression	14	0.65
12	Gene	14	0.65
13	Induced	14	0.65
14	Evaluation	13	0.61
15	Genetic	13	0.61
16	Markers	13	0.61

17	Rice	12	0.56
18	Screening	12	0.56
19	Study	12	0.56
20	Wheat	12	0.56

Table 4 represents year wise pattern of the thesis in the Chemical science. The maximum thesis were in year 2015 i.e. 35, followed by 2017 is 16. The first thesis was submitted in the 1987. Till, 1998 every year one thesis was submitted.

TABLE 4. Year wise growth of thesis produce by Chemical Science

Year	No. of Thesis	Cumulative	In %
1987	1	1	0.52
1989	1	2	0.52
1991	1	3	0.52
1995	1	4	0.52
1996	1	5	0.52
1997	1	6	0.52
1998	1	7	0.52
2002	5	12	2.62
2004	1	13	0.52
2006	1	14	0.52
2007	3	17	1.57
2008	3	20	1.57
2009	7	27	3.66
2010	8	35	4.19
2011	3	38	1.57
2012	23	61	12.04
2013	22	83	11.52
2014	10	93	5.24
2015	35	128	18.32
2016	15	143	7.85
2017	26	169	13.61
2018	16	185	8.38
2019	6	191	3.14

Table 5. Represents the supervisors in the field of Chemical Science. In total there are 191 thesis guided by 58 supervisors. The D Kishore has supervised 56 theses followed by Sarvesh Kumar Paliwal with 44. 56 theses were guided by two supervisors. There are 3 thesis guided by the three guides.

TABLE 5. Top supervisors in the field of Chemical Sciences

Rank	Guide	No. of Thesis	In %
1	D Kishore	56	29.32
2	Sarvesh Kumar Paliwal	44	23.04
3	Jaya Dwivedi	26	13.61
4	Bhawani Singh	11	5.76
5	Dinesh Kumar	11	5.76
6	Rajani Chauhan	9	4.71
7	Rakesh Yadav	8	4.19
8	Prasanta Kumar Santra	6	3.14
9	A K Jha	5	2.62
10	Anil Kumar Dwivedi	4	2.09

The Keywords were extracted from the title, there are 761 unique keywords. The top keywords are synthesis, studies, novel, derivatives, evaluation with the frequency of 81, 50.41,40,40 respectively.

TABLE 6. Top Rank keywords from Title for Bioscience

Rank	Chemical Science	No. of Records	In %
1	Synthesis	81	4.46
2	Studies	50	2.75
3	Novel	41	2.26
4	Derivatives	40	2.20
5	Evaluation	40	2.20
6	Biological	31	1.71
7	Characterisation	21	1.16
8	Agent	20	1.10
9	Drugs	18	0.99
10	Compound	17	0.94
11	Development	17	0.94
12	Interest	17	0.94
13	Design	16	0.88
14	Inhibitor	16	0.88
15	Medicinal	15	0.83
16	Potential	15	0.83
17	Metal	14	0.77
18	Study	14	0.77
19	Activity	13	0.72
20	Annelated	13	0.72

CONCLUSION

In this work the evaluation of Ph.D. theses have been done

- In total there were 210 and 191 theses in the domain of Bioscience and Chemical Science.
- There are total 99 supervisors in the domain of bioscience and 58 in the domain of chemical sciences.
- The most prominent supervisor is Vinay Sharma from Bioscience and D. Kishore from Chemical Science.
- In both the fields, the most popular keywords are characterization and synthesis. It clearly reflects that in both the fields the work is on analysing and identifying the new samples or molecular.

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