

# Coronavirus on Veterinary Research: A Scientometric Profile Based on CAB Direct Online

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## ABSTRACT

The advantage expertise of tries to examine the performance of researchers working inside the situation of Corona virus affected in animals at international level and national distribution throughout the expert interval of twenty three years from 1996-2019. A whole of 691 guides has been acquired from CAB Direct databases were taken for this study. A observe of the Coronavirus studies output of calculate Mean Absolute Deviation (M.A.D) of overall studying the research and development within the field.

**Keywords:** Coronavirus, Scientometric, CAB Direct, Diseases, Calculate Mean Absolute Deviation, M.A.D.

## 1. INTRODUCTION

The name "coronavirus" is derived from the Latin corona, meaning crown or halo, which refers to the characteristic appearance of the virus particles (virions): they have a fringe reminiscent of a royal crown or of the solar corona.

**Coronaviruses** are a group of viruses that cause diseases in mammals and birds. In cows and pigs coronaviruses cause diarrhea. In chickens they cause an upper respiratory disease. Coronaviruses are viruses in the subfamily Orthocoronavirinae in the family Coronaviridae, in the order Nidovirales. Coronaviruses are enveloped viruses with a positive-sense single-stranded RNA genome and with a nucleocapsid of helical symmetry. The genomic size of coronaviruses ranges from approximately 26 to 32 kilobases, the largest for an RNA virus.

## 2. Objective of the Study

To analyse the research activities on corona virus based on the total publication output, its growth rate, types of publications, top journals publishing papers on corona virus research, most productive authors and ranking of countries based on publication output on corona virus diseases research.

## 3. Review of Literature

Scientometric researches have carried out earlier via certainly one of a kind writer at the exclusive character journal publications and literature on particular trouble areas. The following researches related to the targets of this take a look at have been reviewed.

**Suryaman G.K. et al. (2019)** an examination on Avian coronavirus has a wide range of hosts, from chickens and turkeys to wild birds. This virus causes an economically and, possibly, environmentally, important loss in the poultry industry. Therefore, research into the avian coronavirus in various species of birds is required. The Eclectus parrot (*Eclectus roratus*) is an endemic bird to Indonesia and Northern Australia and often kept as pets. At present, there has been limited information about avian coronavirus infection among birds. This study aimed to determine the presence of and to characterize avian coronavirus isolated from Eclectus parrots in Indonesia.

**Cristina Horhoge et al., (2018)** analyzed based on Feline coronaviruses can be detected in feces, diseased tissues and fluids using various methods. The difficulties for diagnostic arise sometimes from the lack of specific clinical signs and pathognomonic

abnormalities. In this study we compared the results of various tests (immunofluorescence, ELISA, RT-PCR and immunohistochemistry) used to identify the feline **coronavirus** in clinical samples (feces, ascitic fluid, blood, kidney, intestine) harvested from 20 domestic and wild cats (10 healthy felines and 10 felines presenting clinical signs of a wet form of feline infectious peritonitis). Feline **coronavirus** was detected in all 10 samples of feces from the healthy cats and all ascitic fluid, 4 intestine and 2 kidney samples from the felines with clinical signs. Positive **coronavirus** antibodies titers are misleading because only show evidence of exposure to FCoV and are not specific for FIP or EFCV. In conclusion, direct immunofluorescence assay is an alternative method to detect feline **coronavirus** in clinical samples, much faster and less expensive. Molecular biology offers instead the possibility to analyse the **coronavirus** strains circulating in Romania.

**Alfano F et al., (2018)** seen that the report a case of pantropic canine coronavirus (pCCoV) infection in an Italian wolf (*Canis lupus italicus*), which has been previously detected only in dogs. Phylogenetic analysis suggests that the strain detected in this wolf is closely related to strains originating from Vietnam and China, which could be due to virus introduction through illegal importation of animals from these countries to Italy. The wolf also had a co-infection with canine parvovirus type 2b and canine adenovirus type 2. In this study, we reported for the first time: the presence of pCCoV in a wolf, the presence of CPV-2b in the wolf population of Campania region and the detection of CAdV-2 in wolves in Italy. These findings represent an important contribution to the monitoring and management of the European wolf population. In addition, the detection of multiple pathogens, including the emerging pCCoV, in the same animal highlights the crucial role of epidemiological surveys in European wild carnivores.

**Yeong-Jun Song (2018)** analyzed the rates of asymptomatic infection with Middle East Respiratory Syndrome (MERS) coronavirus vary. A serologic study was conducted to determine the asymptomatic MERS infection rate in healthcare workers and non-healthcare workers by exposure status. Study participants were selected from contacts of MERS patients based on a priority system in 4 regions strongly affected by the 2015 MERS outbreak. A sero-epidemiological survey was performed in 1,610 contacts (average duration from exposure to test, 4.8 months), and the collected sera were tested using an enzyme-linked immunospecific assay (ELISA), immunofluorescence assay (IFA), and plaque reduction neutralization antibody test (PRNT). Among the 1,610 contacts, there were 7 ELISA-positive cases, of which 1 exhibited positive IFA and PRNT results

**Rajendran Lakshmanan (2018)** an examination of The Study investigation the exploration exercises on Leptospirosis diseases, in light of the aggregate distribution yield. The information is recovered from the CAB Direct Online Database for a long time (1955– 2017). Types of documents, language, rank lists of journals, most productive authors, a ranking of countries based on their publication output are presented.

**Rajendran Lakshmanan (2018)** have demonstrated this paper, attempts to analyze quantitatively the growth and development of Potato (*Solanum tuberosum*) vegetable crop research in India in publication output as reflected in CAB Direct Online Database. During the period 1939-2017 a total of 1,27,234 papers were published by the scientists of global respectively on Potato Crop analysis. India is the top country in Agricultural research with its contribution of 7,258 papers which is nearly (7.66%) of the global research output of Agricultural research followed by the specific country are in USA with 7,056 papers (7.45%). The most preferred journals where the American Potato Journal with 1,784 papers (1.88%) followed by the

Potato Research with 1,764 papers (1.86%). The study revealed that out of the world, India has the highest range the production of Potato. It covers India is a top level in the field of agricultural research as a part of the Indian country are ranked higher position of Uttar Pradesh in a northern region.

#### 4. MATERIALS AND METHODS

The look at is based at the publication information on Corona Virus research, retrieved from the CAB Direct Online database for 23 years (1996-2019). Coverage consists of main bibliographic database CAB abstracts consists of databases from net assets and summary journals. CAB Direct offers get right of entry to:

- Over 11.5 million bibliographic records
- Over 350,000 full text articles hosted by CABI and
- Many other authoritative reviews, news articles and reports

CAB Direct has a clean, simple design and a Google like search capability to enable the users to locate what is wanted quick and easily. The Advanced Search facility of CAB Direct Online database changed into used for this study. The keyword 'Coronavirus' has been used in article tile area and the search turned into performed.

#### 5. RESULTS AND ANALYSIS

##### 5.1 Calculate Mean Absolute Deviation (M.A.D) of Research Output

It is discovered from the take a look at that the quantity of papers has been multiplied step by step i.e. 5 to 56 papers were posted in 2002-2013 and also constantly increased inside the 12 months ; because of the studies out has been modified in this have a look at. A look at of the Coronavirus research output of calculate Mean Absolute Deviation (M.A.D) of overall reading the studies and development inside the field. Table-1 suggests that the Coronavirus studies output, it is clear that the length has 1996-1997 has much less e-book in that length, mainly that year was started in research outgrowth in an area, but

slowly increasing trend value of that particular length on 2000-2009. Where  $\Sigma$  is a complete quantity of publications: facts value obtained from mean divided by way of quantity of values. The M.A.D cost for the period 1996-2019 is worked out to 21.26446673.

Table1. Mean Absolute Deviation of Overall Research Output

Year	No. Of Articles ( $\Sigma$ )	Data Value – Mean
1996	1	30.4091
1997	1	30.4091
2000	2	29.4091
2001	6	25.4091
2002	5	26.4091
2003	6	25.4091
2004	10	21.4091
2005	14	17.4091
2006	18	13.4091
2007	30	1.40909
2008	22	9.40909
2009	45	13.59091
2010	44	12.59091
2011	41	9.590909
2012	43	11.59091
2013	56	24.59091
2014	41	9.590909
2015	95	63.59091
2016	78	46.59091
2017	54	22.59091
2018	51	19.59091
2019	28	3.40909
	691	467.818268

The Mean Absolute Deviation (MAD) of a set of data is the average distance between each data value and the mean. While we could work through each of these steps on the calculator's home screen, let's instead, try to utilize the calculator's features to minimize our work. We will look at two different approaches to find the population MAD.

$$M.A.D = \frac{\Sigma |datavalue - mean|}{\text{Number of Values}}$$

$$M.A.D = \frac{467.818268}{22} = 21.26446673$$

##### 5.2. Rank-wise Countries Distribution of Publications

They have a look at reveals that Iran is the height us of an in Coronavirus research with its contribution of 44 papers which is nearly (6.36%) of the global research output on Coronavirus studies followed by Korea with 37 papers (5.35%). Italy ranks third position with 34 papers (4.92%), China were given the fourth role with 25 (3.61%) and fifth region of USA

with 22 papers (3.18%) out off the ten nations Iran is a height rank. The top 10

nations primarily based on variety of guides are provided in Table -2.

**Table – 2. Ranking wise Country**

Name of the States	No. of Publications	Percentage	Cumulative Publications	Cumulative Percentage of Articles
Iran	44	6.36	44	6.36
Korea	37	5.35	81	11.71
Italy	34	4.92	115	16.63
China	25	3.61	140	20.24
USA	22	3.18	162	23.42
Romania	20	2.89	182	26.31
Thailand	20	2.89	202	29.20
Turkey	20	2.89	222	32.09
Brazil	19	2.74	241	34.83
Europe	17	2.46	258	37.29

### 5.3. Preferred Journals

The most popular journals through the scientists concerned with the Coronavirus evaluation were: Thai Journal of Veterinary Medicine with 22 papers (three.18%) observed via Lucrari Stiintifice Universitatia de Stiinte Agricole a Banatului Timisoara Medicina Veterinara with 19 papers (2.74%). They have a look at discovered that out of excessive five most famous journals by using the Coronavirus

researchers, three journals viz., Medycyna Weterynaryjna 14 papers (2.02%) and Pakistan Veterinary Journal 13 papers (1.88%), Veterinary World thirteen papers (1.88%) and rating which actually indicates that the contribution of India in Coronavirus analysis indicates 14 papers (2.02%) the ranking position accompanied with the aid of France. The maximum 10 most popular journals are indexed in Table- 3 with the quantity of papers revealed.

**Table – 3. Preferred Journals by Coronavirus Analysis**

Sl.No.	Journal Name	No. Of Papers	Percentage
1.	Thai Journal of Veterinary Medicine	22	3.18
2.	Lucrari Stiintifice Universitatia de Stiinte Agricole a Banatului Timisoara Medicina Veterinara	19	2.74
3.	Medycyna Weterynaryjna	14	2.02
4.	Pakistan Veterinary Journal	13	1.88
5.	Veterinary World	13	1.88
6.	Infection and Chemotherapy	12	1.73
7.	Epidemiology and Health	11	1.59
8.	Annals of Laboratory Medicine	10	1.44
9.	Iranian Journal of Veterinary Research	10	1.44
10.	Large Animal Review	10	1.44

### 5.4. Leading format of Publication

They have a look at exhibits that the primary supply of courses coated by using CAB Direct Online database for Coronavirus research analysis is journal articles with 454 papers (65.70%) accompanied by means of convention papers with 250 papers (36.17%). Book Chapter third position with 55 (7.95%), Conference Proceedings and Book are within the fourth and fifth places with 8 (1.15%) and 2 (0.28%) various. The highest 7 sorts of guides are furnished in Table -4.

**Table – 4. Leading format of Publication**

Sl.No.	Kinds of Document	No. Of Papers	Percentage
1.	Journal article	454	65.70
2.	Conference paper	250	36.17
3.	Book Chapter	55	7.95
4.	Conference Proceedings	8	1.15
5.	Book	2	0.28
6.	Journal Issue	1	0.14
7.	Miscellaneous	1	0.14

### 5.5. Most Productive Authors

The study famous that Robers J.R is that the maximum ranking authors of Coronavirus analysis who found out 14 papers (2.02%) accompanied via Benko M with thirteen papers (1.88%). It's determined that out of the very best 5 authors who contributed a whole lot of

papers in Coronavirus analysis, there are world ranking creator contributed a paper level of 10 to thirteen viz., Harrach B, and Balenovic M, 10 papers (1.44%), are equally posted articles and Lavazza A 10 Papers (1.44%). Table – five lists the highest 10 rating authors inside the discieous of Coronavirus analysis.

**Table –5. Most Productive Authors in Coronavirus Analysis**

Sl.No.	Name of Author	No. Of Papers	Percentage
1.	Roberts J.R	14	2.02
2.	Benko M	13	1.88
3.	Harrach B	13	1.88
4.	Balenovic M	10	1.44
5.	Lavazza A	10	1.44
6.	Karimi V	9	1.30
7.	Omar A.R	9	1.30
8.	Pohuang T	9	1.30
9.	Sasi Preeyajan J	9	1.30
10.	Hashemzadesh M	8	1.15

### 5.6. Language Distribution

It is observed that English is the maximum essential language utilized by the researchers for verbal exchange in the Coronavirus analysis with 552 papers (79.88%) observed by Spanish with 33 (4.77) and Italian with 32 (4.63%). The pinnacle 10 main languages are furnished in Table -6.

**Table –6. Language Distribution of Coronavirus Analysis**

Sl.No.	Language	No. of Papers	Percentage
1.	English	552	79.88
2.	Spanish	33	4.77
3.	Italian	32	4.63
4.	Chinese	13	1.88
5.	Portuguese	10	1.44
6.	Turkish	10	1.44
7.	Croatian	9	1.30
8.	Polish	9	1.30
9.	French	7	1.01
10.	Persian	5	0.72

### 6. Findings

These are the findings of the Scientometric look at and it's far was hoping this locating is probably to be useful for the stakeholders of Coronavirus analysis information managers in these areas:

- Iran contribution to global studies based pinnacle function on CAB Direct Online database found out that India has published 14 papers in numerous fields of Coronavirus analysis.

- Roberts J.R is that the most rating authors of Coronavirus evaluation who discovered 14 papers (2.02%) accompanied with the aid of Benko M with thirteen papers (1.88%).

- Most favoured journals are: Thai Journal of Veterinary Medicine with 22 papers (3.18%) observed with 19 papers (2.74%).

- Journal article viz., with 454 papers (65.70%) observed through conference papers with 250 papers (36.17%). Book Chapters third function with 55 (7.95%), Conference Proceedings and Book are in the fourth and fifth locations with 8 (1.15%) and 2 (0.28%) of various rating which surely suggests that the contribution of India in Coronavirus research analysis is predominant role.

- Iran is the pinnacle us of a in Coronavirus research with its contribution of forty four papers that's nearly (6.36%) of the global studies output of Veterinary studies accompanied with the aid of the precise united states of America are in Korea with 37 papers (5.35%) ranks second role and Italy is a third role with 34 papers (4.92%).

### 7. CONCLUSION

Twenty three years, of time period overall duty in conveyances is basically extended within the field of Coronavirus study. An exam of the Coronavirus studies output of the veterinary research is a remember of Mean Absolute Deviation (M.A.D) of probably isolating the imaginative work within the discipline. Where  $\Sigma$  is a mixture variety of research output: statistics cost obtained from imply partitioned by using quantity of regards. The Coronavirus affected the mammals, canine etc., glaringly the period has 1998-1999 has less guide of research in that length, besides bit through bit developing instance estimation of that express length on 2002-2009 and furthermore always expanded in the 12 months 2011-2013. The Iran is the pinnacle studies contribution in Coronavirus survey, with its dedication forty four papers out of 691 , the overall research contribution in Veterinary research

out of this the precise united states are in India with 14 papers (2.02%). An Indian researcher needs to be the Coronavirus inspect area so the determination of India in this examination locale could be in a fashionable experience extended.

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