



# BIBLIOMETRIC VISUALIZATION OF INDIAN SCIENTIFIC OUTCOMES ON COVID-19

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## ABSTRACT

**Background:** The COVID-19 is a vital threat to every living organism on this planet and the novel virus was initially revealed by WHO on December 31, 2019, in response to a report of a series of cases of 'viral pneumonia in Wuhan, People's Republic of China. COVID-19 is a coronavirus disease caused by SARS-CoV-2, a novel member of the coronavirus family.

**Objective & Methods:** Nowadays Covid-19 is a burning issue worldwide and an emergency, so through this study, we are trying to find out the research productivity of the COVID-19 related literature. Data extracted from Scopus database from 2019 to June 1, 2021. A total of 275,392 records were retrieved, further refined for India to extract the Indian output in the topic. The search yielded 15026 (5.456%) records by the Indian authors in COVID-19 for January 1, 2019, to June 1, 2021. The records were downloaded and bibliometric analysed on numerous parameters using Vosviewer, Microsoft Excel and google spreadsheet. **Result:** India has mostly worked with the United States and the United Kingdom. With 1375 citations and 58 documents, Singh A.K. is the most prolific corresponding author (first position). With 310 publications, the journal International Journal of Research in Pharmaceutical Sciences is the most popular among writers for publishing Covid-19 research, Followed by Asian Journal of Psychiatry (245) and Indian Journal of Ophthalmology (214). The majority of the articles were published without any financial assistance. However, With 299 funding Department of Science and Technology, Ministry of Science and Technology, India ranked first position (299). It was discovered that 27 subjects published articles on Coronavirus, with the highest number of 7923 (32.7%) papers published under the Medicine subject, only 1706 (7.1%) papers in social science. As a result, it can be observed that more than 57 % of papers were published as journal articles, which is the most common type of document. 99.92% of papers were published in the English language. **Conclusion:** The research presents a bibliometric examination of Indian contributions to Covid-19. This new viral epidemic has posed a threat to India's economic, medical, and public health infrastructure and the infrastructure of neighbouring countries. The majority of the papers were authored during Covid-19's early stages. The bibliometric technique is critical for illustrating global research production on Coronavirus, as seen by the data described above. In addition, because Coronavirus is a recently diagnosed illness and a relatively new research area, the findings provide a "snapshot" of the field.

**Keywords:** COVID-19, Pandemic, Coronavirus infection, Mental health, Lockdown, Bibliometric, Scientometrics, India,

## INTRODUCTION

COVID-19 is a coronavirus disease caused by SARS-CoV-2, a novel member of the coronavirus family. The novel virus was initially revealed by WHO on December 31, 2019, in response to a report of a series of cases of 'viral pneumonia in Wuhan, People's Republic of China. The total cases around the world was 172,242,495 and 3,709,397 deaths, affected around 220 countries all over the world. The USA is the most infected country worldwide, followed by India, where people infected with a surge growth in January to June 2021. India confirmed the first case on March 2, 2020, and total cases was 28,694,879 and death was 3, 44,082 according to WHO<sup>1</sup> (5.June 2021). Less common but potentially severe symptoms include tiredness, unusual skin rash, vomit, constipation, disorientation, prolonged chest pain, and other less common symptoms include: Indications that irritability, confusion, sleep problem, serious and uncommon neurological consequences, including attacks, brain inflammation, delirium, organ damage, all show serious COVID-19 diseases (often accompanied with seizures), fears, depression, sleep difficulties. All probable death reasons include a failure to breathe, a syndrome of acute respiratory distress (ARDS), septic shock, thromboembolism and a multi-organ failure, including heart, liver or kidney injury.

A few weeks after infection, children may develop inflammatory severe conditions in rare circumstances. Anyone over the age of sixty is more prone to develop a grave illness and people suffering from underlying medical problems such as high blood pressure, respiratory illnesses, diabetes, overweight, or cancer. Due to this pandemic, every sector is affected and shut down, so we are already in an economic crisis. The word 'Bibliometric' was initially created by Alan Pritchard in 1969. He described it as the deployment to the books that use communication of mathematical and statistical approaches." The 1970s saw bibliometric grow into a scholarly technique for literature evaluation and now focused mainly on computational mathematics.

The bibliometric term is divided into two words, Biblio means "Books" and Metrics mean "Measurement". It is a method that includes statistical analysis of published article and citations therein to measure their impact. In other words, it is a bibliographic statistical analysis, usually focused on quoting research output publishing analysis. In the subject of library and information science, the bibliometric approach was formerly used exceptionally often. In every domain today, it's trending. In the study area, the bibliometric technique is used to investigate the influence of the field; it is used to analyse academic literature quantitatively; citation analysis is a popular way of bibliometric analysis based upon citation and networking.

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## Literature Review

A Literature Review is an evaluative report of information on the topic under the investigation. The review will sum up the literature, appraise it and clarify it. There are different research papers that emphasise the relevance of the analysis Covid-19. The review of articles on a variety of bibliometric and Covid 19 study is discussed here. **Zhang, L. et al. (2020)**. - have presented a global analysis prediction using PHEIC, COVID-19, Response pattern, Bibliometrics and Scientometrics. The author tried to find out the academia's response to a public health emergency and what kind of research institutions play an essential role. In this paper, data collected from the Web of Science. Data analysed with the help of "R" and "Vosviewer". The author also showed a comparison through a line graph to show the literature growth between Pubmed, WoS, CNKI. **Zhai, F. et al. (2020)** - The author performed a bibliometric study to demonstrate the evolution of Covid-19's research process. The study's goal is to look at how nations, institutions, and researchers have distributed their research skills over the last two decades, as well as the hotspots and frontiers of coronavirus research. There were 11,036 papers found, with China and the United States contributing the most. The Journal of Virology

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<sup>1</sup> - Q&A Detail. (n.d.). Who.Int. Retrieved June 1, 2021, from <https://www.who.int/news-room/q-adetail/coronavirus-disease-covid-19>

received the most donations, with Hong Kong University being the top donor. **Singhal, T. (2020)** – presented a bibliometric study on the review of COVID-19 disease prediction using SARAS-CoV-2, Covid-19, 2019-nCoV and pneumonia disease. In the following article, techniques include origin, diagnosis and treatment; aetiology, epidemiology; clinical characteristics; diagnosis and prevention. The virus in Wuhan city of China in 2019 was spread to people by bats. On 05 March 2020, there was a total of 96000 reported cases all over the world and only 29 cases reported in India. Total 3300 deaths were reported worldwide due to COVID19, and the fatality rate was 2-3% at that time. The research paper's limitation or research gap is that it was written in the starting phase of COVID-19, so the clarity is significantly less in all field/ Methods; it can be escalated. **Singh, M. P., & Bharati, V. K. (2020)** - The author provided a bibliometric study that used Academic Integrity, Bibliometric, Ethics, Mapping, Plagiarism, and Plagiarism Detection to predict plagiarism. The study uses the Scopus database to investigate for Global Research Output on Plagiarism from 2010 to 2019; 1882 articles were analysed using Vosviewer and Microsoft Excel. According to the report, dealing with plagiarism will become an essential element of academic administration in the future years. The most collaborative country is the United States and most concentrated subject in research is computer science. **Salini C P (2020)** presented bibliometric evaluation predictions using activity index, indicators, 3-D evaluation, and collaboration in organic chemistry, between a period 2004-2013. In addition, the author provided a good comparison between India and the rest of the globe. The United States is the most productive country, followed by China and Germany. India is ranked ninth, contributing more than 1% of the total global output, while the United States and China contributed 36%. **Mukherjee, B. (2020)** Using Coronavirus, Covid-19, Bibliometric Study, VosViewer, and Co-citation analysis, the author presented a bibliometric inquiry on worldwide research trends in Covid-19 predictions. Data was gathered from the Web of Science and Pubmed databases and analysed using Vosviewer in this paper. The author attempts to identify the coronavirus research sub-domain, as well as the notable organisation and productivity of related publications. **Kirtania, D. K. et al. (2019)** - With the aid of bibliometric, the author presented a study of M.Phil. Dissertations at DLIS Calcutta. Between 2004 and 2006, the author examined a total of 136 M.Phil. Dissertations. The author discovered that Community Information Systems, bibliometric, and ICT are essential to study areas. The author demonstrated the pathfinding role in the development of the study through this investigation. **De Felice, F., & Polimeni, A. (2020).** - The author presented a bibliometric study on Covid-19 using the Scopus database; in this, he tried to find out the research trends, top authors, journals and keywords. A high collaboration was found between the USA and UK. **Bharati, V. K. & Singh, M. P., (2020)** – the author proposed a bibliometric study on COVID-19, data collected from Scopus and evaluated utilising Vosviewer. In findings author showed with 67 articles (15.05 %), 2017 was the most prolific year. The highest annual growth rate (AGR) was 61.90 in 2012, with the lowest (-) 22.22 in 2011. Antibiotic resistance is a worldwide concern for public health. Author also indicate that at the national level, research on antibiotic resistance should be increased.

## Objectives

- To explore different types of documents, sources, languages of publications on COVID-19 research.
- To explore publication trends and status of 'COVID-19 research in Indian perspectives.
- To explore prolific contributors such as authors, institutions and funding agencies towards 'COVID-19' research.
- To explore the most prominent subject area on COVID-19.
- To explore the visual mapping of co-occurrences of keywords, authors, sources, and cited references for COVID-19 research.
- To explore the current limitations and gaps in the knowledge of coronavirus and its effects.

## Methodology

In this study, Scopus database was used for collecting the data, which is the most extensive online database in the world. The database was searched on the following query with the help of eight keywords in one query.

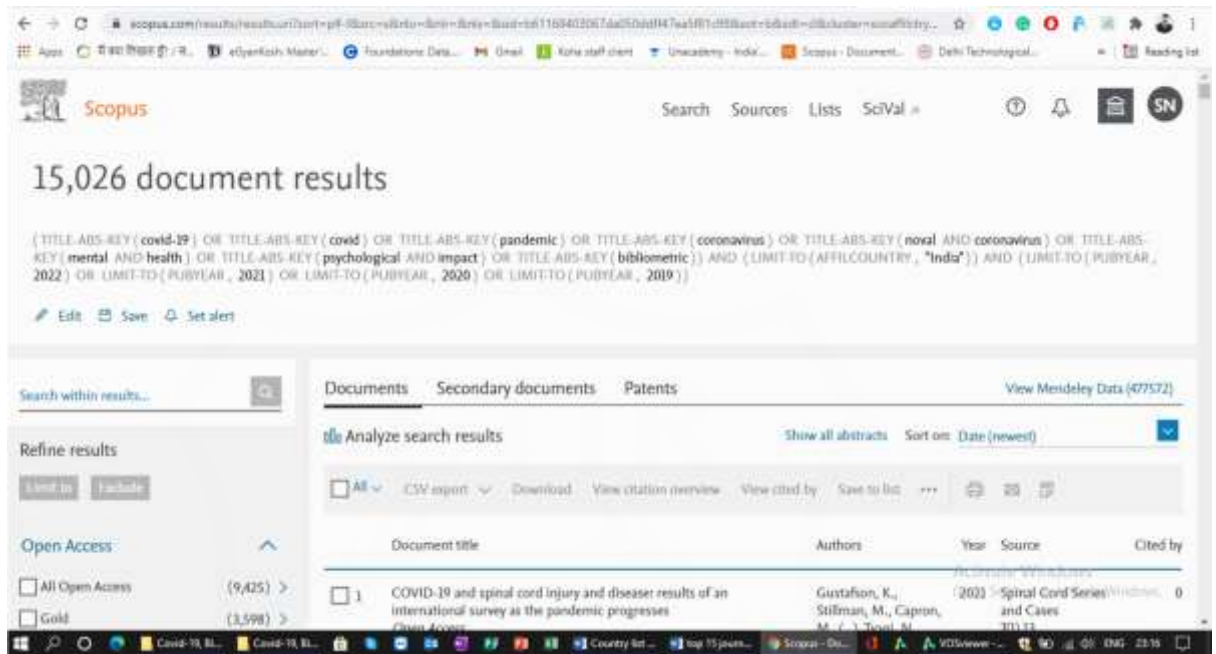
(TITLE-ABS-KEY (Covid-19) OR TITLE-ABS-KEY (Covid) OR TITLE-ABS-KEY (pandemic) OR TITLE-ABS-KEY (coronavirus) OR TITLE-ABS-KEY (novel AND coronavirus) OR TITLE-ABS-KEY (mental AND health) OR TITLE-ABS-KEY (psychological AND impact) OR TITLE-ABS-KEY



(bibliometric)) AND (LIMIT-TO (AFFILCOUNTRY, "INDIA")) AND (LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2020) OR LIMIT-TO (PUBYEAR, 2019))<sup>2</sup>.

A total of 275,392 records were retrieved, further refined for India to extract the Indian output in the topic. The search yielded 15026 (5.456%) records by the Indian authors in COVID-19 for January 1, 2019, to June 1, 2021. The records were downloaded and bibliometric analysed on numerous parameters using Vosviewer, Microsoft Excel and google spreadsheet.

6.1- The query equation for Scopus was given as and showed in Fig.1



### Data Analysis and Interpretation

The analysis reveals India’s publication output in the field of COVID-19 disease Based on collected data from Scopus data base between year 2019 to June1, 2021, a total of 15026 entries have been retrieved. The records were downloaded and bibliometric analysis using Vosviewer<sup>3</sup>, Microsoft Excel and Google Table were carried out on a number of criteria and analysis and findings.

The top twenty most prolific corresponding authors with Covid-19 publications are listed in Table 3.1. VOSviewer was used to produce the visualisation and table. The 989 writers are identified to match the criteria. Singh A.K. is the most prolific corresponding author (first place) with 1375 citations and 58 documents published, followed by Kumar S. with 1324 citations and 201 papers published, and Dhama K. with 1210 citations and 80 publications. Finally, Singh A. came in 20th place with 711 citations and 113 publications published.

7.1 - Top 20 most productive Authors ranked according to the number of Citation.

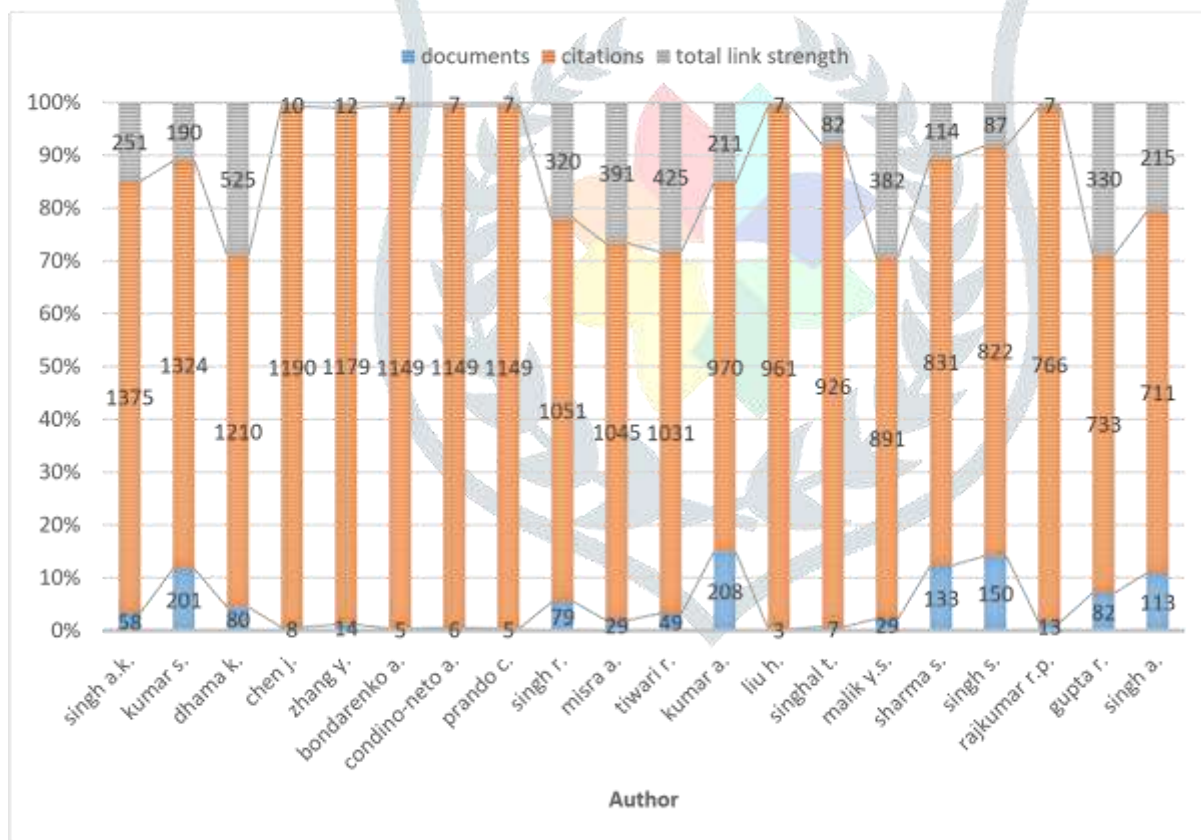
Ranking	author	documents	citations	total link strength
1	singh a.k.	58	1375	251
2	kumar s.	201	1324	190
3	dhama k.	80	1210	525
4	chen j.	8	1190	10

<sup>2</sup> - <https://www.scopus.com/results/results>.

<sup>3</sup> - VOS viewer Manual (2020) developed by Nees Jan van Eck and Ludo Waltman at Leiden University's Centre,for Science and Technology Studies (CWTS). Retrieved <https://www.vosviewer.com/>

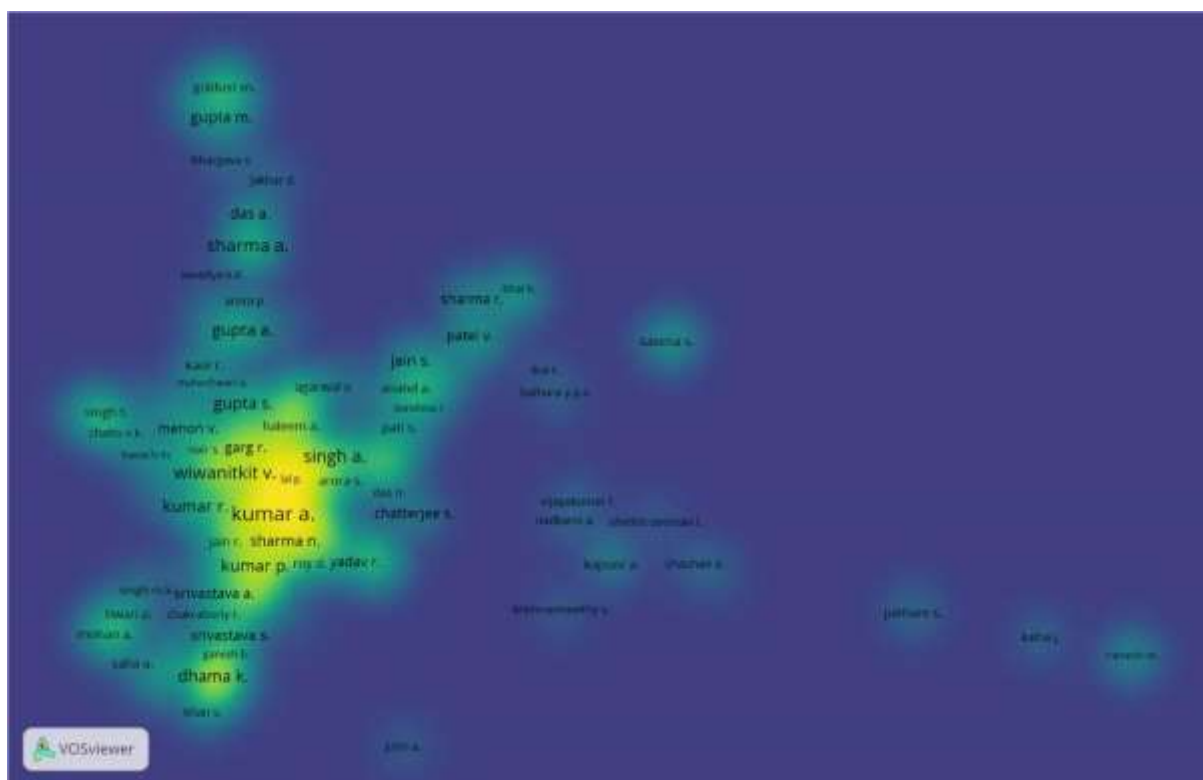
5	zhang y.	14	1179	12
6	bondarenko a.	5	1149	7
7	condino-neto a.	6	1149	7
8	prando c.	5	1149	7
9	singh r.	79	1051	320
10	misra a.	29	1045	391
11	tiwari r.	49	1031	425
12	kumar a.	208	970	211
13	liu h.	3	961	7
14	singhal t.	7	926	82
15	malik y.s.	29	891	382
16	sharma s.	133	831	114
17	singh s.	150	822	87
18	raj कुमार r.p.	13	766	7
19	gupta r.	82	733	330
20	singh a.	113	711	215

7.1- Graphical representation of most prolific Authors



The figure 7.1 shows the density of the co-author and a yellow colour demonstrating how the author creates networks and collaborates. This allows us to understand which of the authors working together: Kumar a.; Wiwantikit V.; Garg r.; Sharma N, which shows very closely the visualisation of density and Goldust m and Gupta m. also collaborating, but Dua T., Balharya y.p.s., Kalha J. and Jakhar d. do not or are significantly making fewer networks with the other authors.

### 7.1- Co-Authorship density, the most prolific (cited) authors - identification based on a sample from the Dimensions database



On Covid-19, Figure 7.2 depicts a network representation of author keywords used in scientific articles. With the aid of VOSviewer, the visualisation was made. The various colours reflect the many study fields. The font size and bubble size indicate the frequency with which terms are used. Only 387 keywords satisfy the criteria for visualisation mapping, where the least number of keyword occurrences is determined to be 10. These keywords were divided into five clusters, with the number of keywords indicated by the size of the circle; the more wide the circle, the more research articles that utilised these keywords. For example, the largest circle on the map is “sars-cov, coronavirus, and COVID-19,” indicating that this phrase is used the most as a keyword, followed by “Pandemic, India, Mental health,” and “Lockdown.”

Cluster 1 (Red) represents 2019-ncov, ace-2, acute kidney injury, anosmia, antibodies, antiviral, clinical trials, Covid-19, cytokine Strom, diagnosis, disinfection, docking, epidemiology, genomics, herd immunity, immunity, infectious, mortality, Mpro, mutation, pathology, one health, novel coronavirus, pneumonia, sars cov-2, symptoms, therapy, temperature, surveillance, virus, virtual screening, virology, virus and viral infection.

Cluster 2 (Green) represents work on alcohol, anxiety, climate change, ageing, adolescent, diabetes, diet, distress, fear, food security, global health, health policy, mental health, hypertension, lifestyle, mental illness, obesity, physical health, policy, psychological distress and impact, public health, risk factors, sleep, suicide, supply chain, systematic review.

Cluster 3 (Blue) represents awareness, air quality, pollution, challenges, Covid-19 lockdown, environment, ethics, guideline, isolation, knowledge, orthopaedics, outbreak, PPE, quarantine, risk, safety, social distancing, trauma, telemedicine.

Cluster 4 (Yellow) represents work on Artificial intelligence, big data, blockchain, cloud computing, computer vision, X-ray, analysis, Arima, data mining, deep learning, emotional intelligence, fake news, infomedic, machine learning, mathematical modelling, health care, smartphone, virtual reality.

Cluster 5 (Purple) represents agriculture, authorship pattern, bibliographic coupling, bibliometric, bibliometric analysis, bibliometric study, bibliometrics, citation, communications, content analysis, E-learning, higher education, innovation, leadership, medical education, Online learning and teaching, research productivity, scientometric, sustainability.



## 7.2- Frequently used keyword by Authors

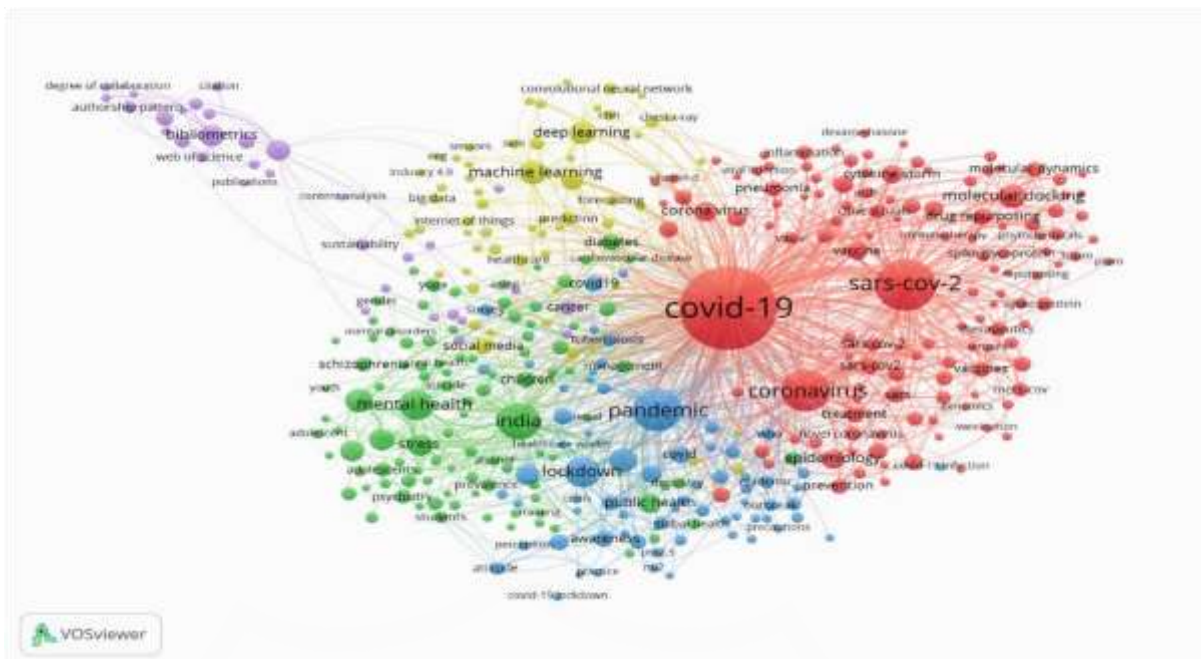


Figure 7.3 on Covid-19 shows all the terms used in scientific articles as a network cooccurrence representation. The visualisation was done with the help of VOSviewer. A total number of 1986 fulfils the limit thresholds the minimum incidence of keywords is 15 per piece. The many colours reflect the diverse disciplines of research. The text size and the bubble size specify the frequency of use. These keywords were split into four clusters, with the size of the circle indicating the number of keywords; the broader the cycle is, the more research papers these keywords use. For example, the largest circle on the map is “coronavirus disease, and COVID-19,” indicating that this phrase is used the most as a keyword, followed by “Pandemic, India, coronavirus infection,” and “pneumonia viral.”

Cluster 1 (Green) shows Pandemic, Drug efficiency, virus replication, virus infection, influenza, therapy, antiinflammatory activity, anakinra, non-human, physiology, metabolism, proteinase, genetics, spike, molecular docking.

Cluster 2 (Red) represents Age, child, adolescent, marriage, India, mental health, psychology, letter, survey and questionnaires, risk assessment, health care personal, social media, quarantine, hygiene, medical education, protective equipment.

Cluster 3 (Blue) represents Ferritin, systolic blood pressure, clinical article, dyspnea, fever, coughing, hospitalization, diabetes mellitus, ARDS, disease severity, the mortality rate.

Cluster 4 (Yellow) represents Coronavirus disease 2019. Covid -19, pandemic, priority journals, virus pneumonia, quarantine, patient care, prevention and control epidemic, infection control, organization and management, health care delivery, aerosols, batacoronavirus.

## 7.3- Total Keyword density

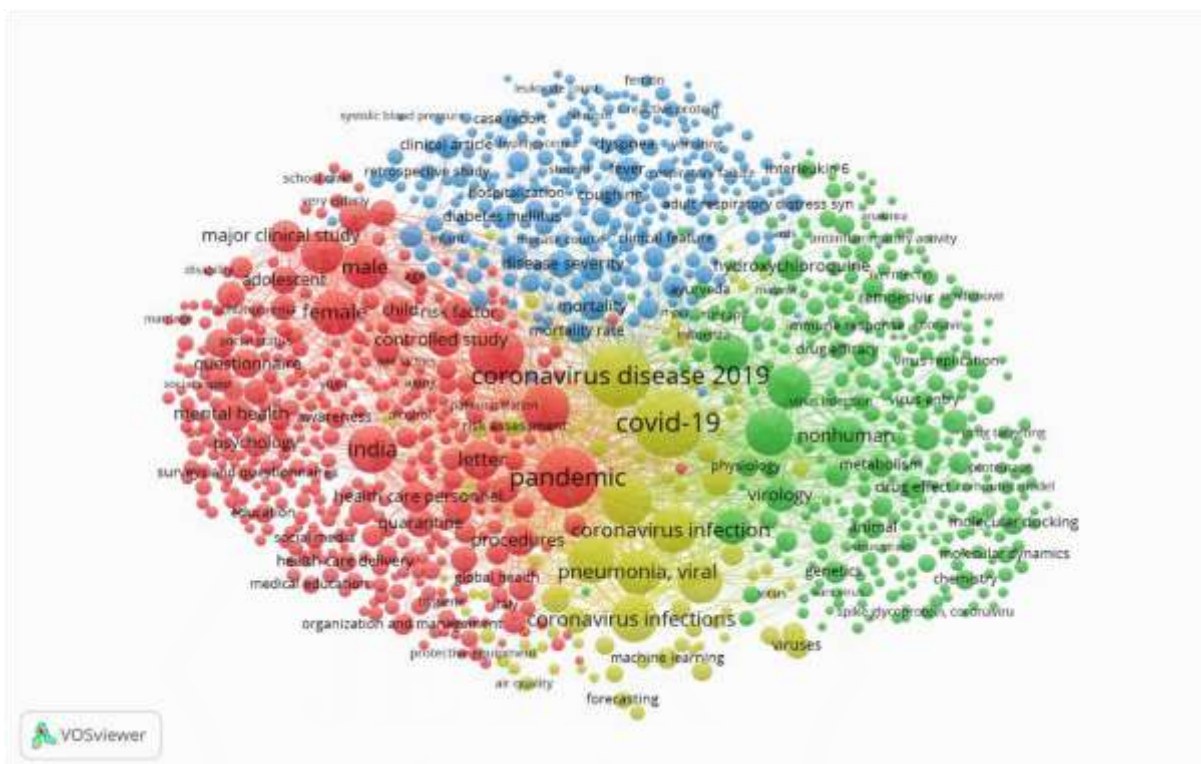
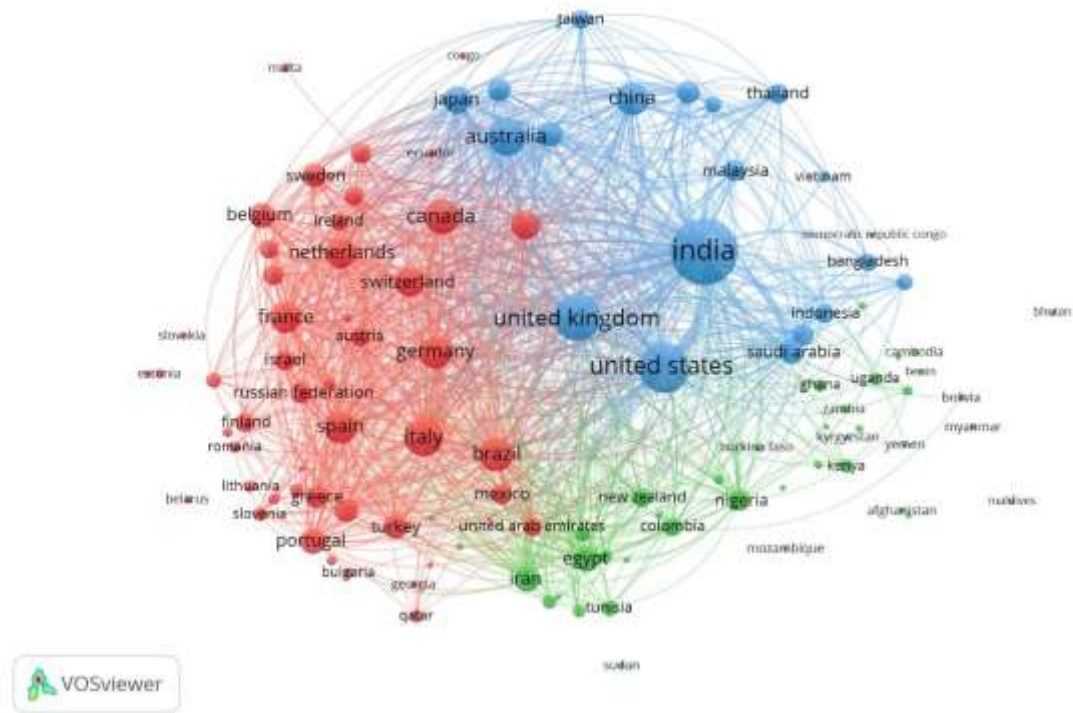


Figure 7.4: The most collaborative countries' network visualisation. There were scholarly articles published on Covid-19 from a total of 186 nations. We decided on a five-document minimum per nation, as well as a five-citation minimum. There were 110 nations represented in the articles that were found. It was decided to map all 110 countries. A circle in Figure 5 represents every country. The circle represents collaboration, with larger circles indicating larger research papers and more collaborative ties between nations. The chart reveals that India's circle is larger than the others, indicating that India is the most collaborative country. With the help of the map, it is found that India's circle is bigger than another, which means India is the biggest collaborative country that has a more significant number of scholarly publications, Followed by the USA and the UK. Figure 6 depicts the number of nations that collaborate. India is the most prolific country, collaborating with every other country, followed by the United States and the United Kingdom. This map also indicates that Japan collaborates with Australia more than with India, whereas Belgium, Ireland, the Netherlands, France, and Israel collaborate. Bhutan, Afghanistan, Maldives, Sudan, Taiwan, and Slovakia collaborate with fewer nations than other countries. The twenty most prolific nations with Covid-19 articles are shown in Table 7.2. Table -2 shows that India has the most articles published (10128), followed by the United States (1078), the United Kingdom (691), Australia (356), and China (305).



7.4- Network visualization of most collaborative countries

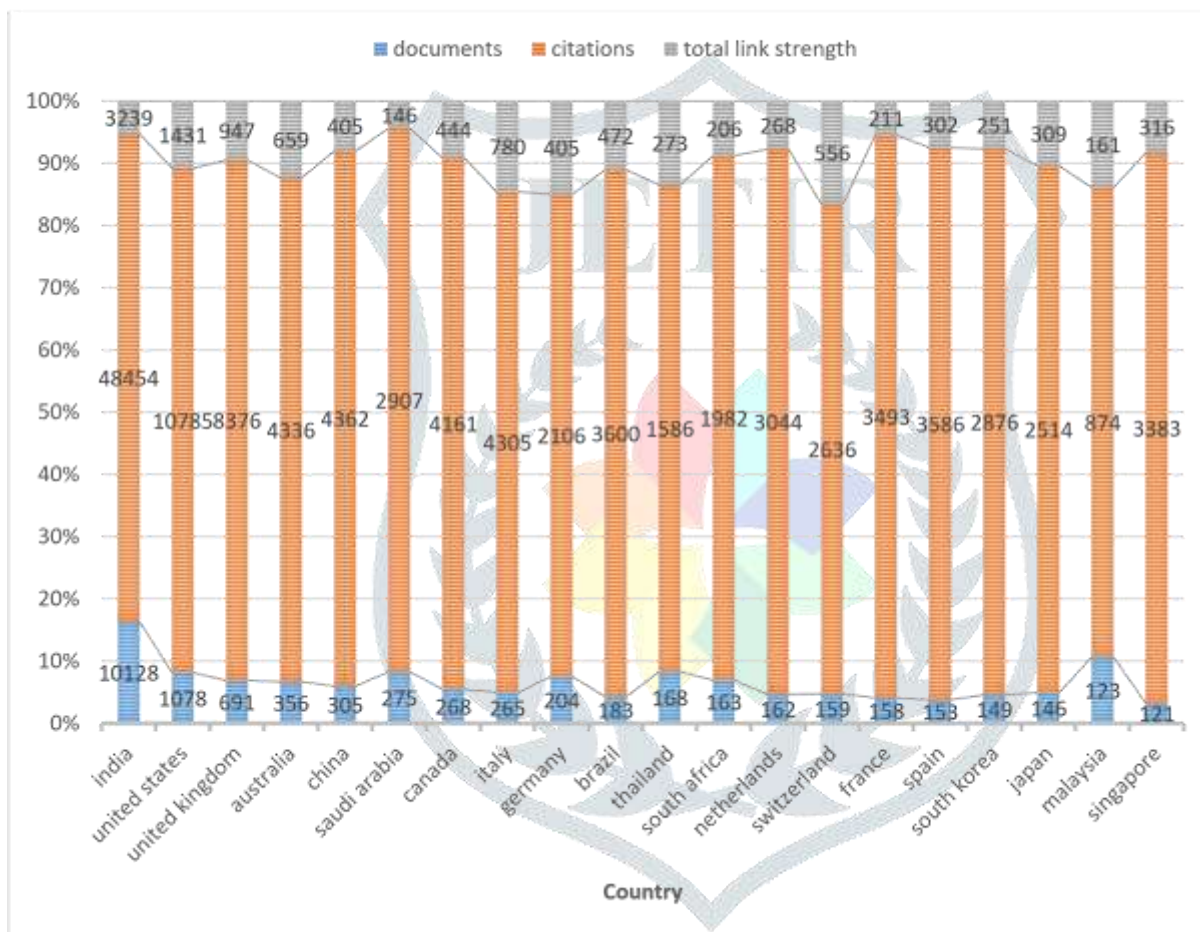


7.2- Leading 20 Country’s contribution in the field of COVID- 19, ranked according to the number of published paper

Ranking	Country	Documents	Citations	Total link strength
1	india	10128	48454	3239
2	united states	1078	10785	1431
3	united kingdom	691	8376	947
4	australia	356	4336	659
5	china	305	4362	405
6	saudi arabia	275	2907	146
7	canada	268	4161	444
8	italy	265	4305	780
9	germany	204	2106	405
10	brazil	183	3600	472
11	thailand	168	1586	273
12	south africa	163	1982	206
13	netherlands	162	3044	268

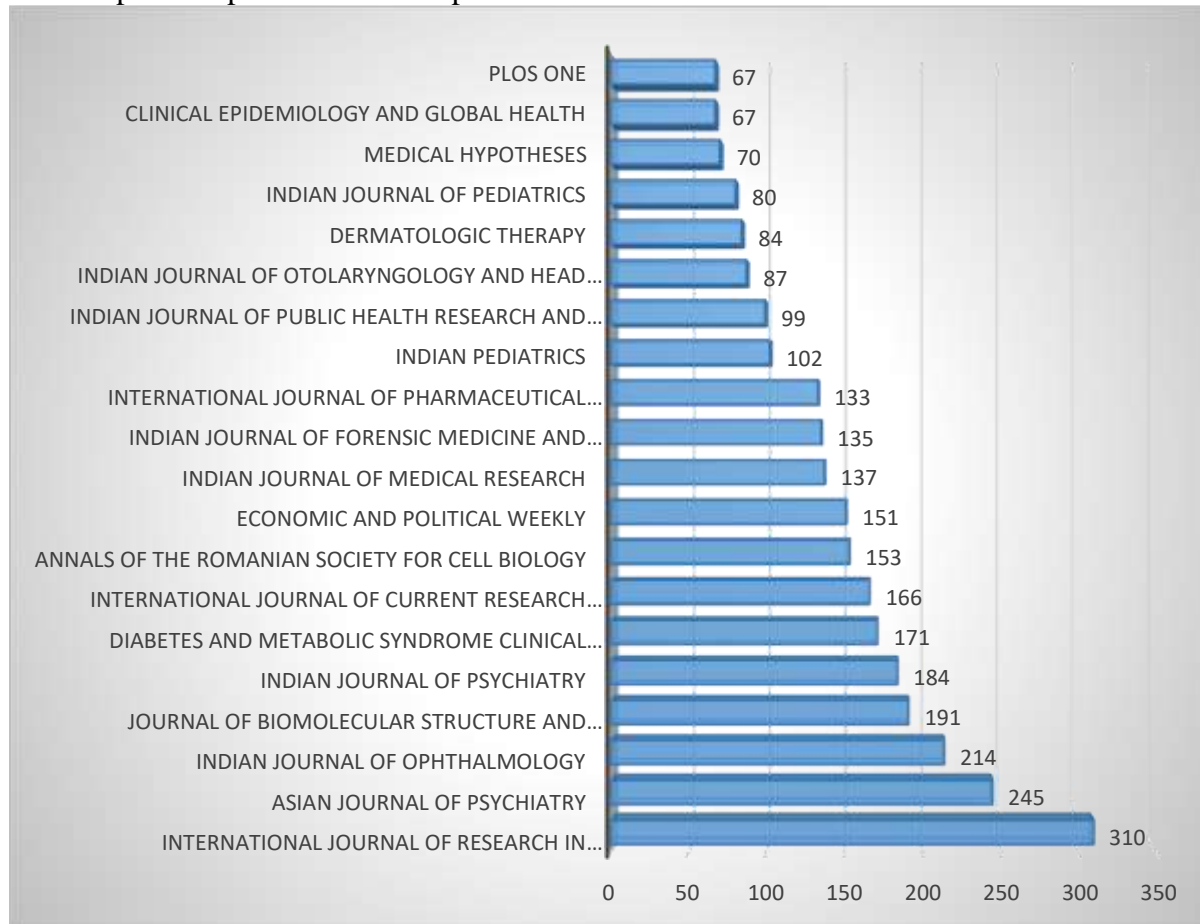
14	switzerland	159	2636	556
15	france	158	3493	211
16	spain	153	3586	302
17	south korea	149	2876	251
18	japan	146	2514	309
19	malaysia	123	874	161
20	singapore	121	3383	316

7.2- Graphical Presentation of countries with documents, citations and total link strength



Graph 7.3 shows the most 20 preferred journal by Indian authors on COVID-19. It is found that the journal International Journal of Research in Pharmaceutical Sciences with 310 papers is the most preferred journals of authors for publishing Covid-19 literature, followed by Asian Journal of Psychiatry (245), Indian Journal of Ophthalmology (214) and Journal of Bio molecular Structure And Dynamics (191) etc.

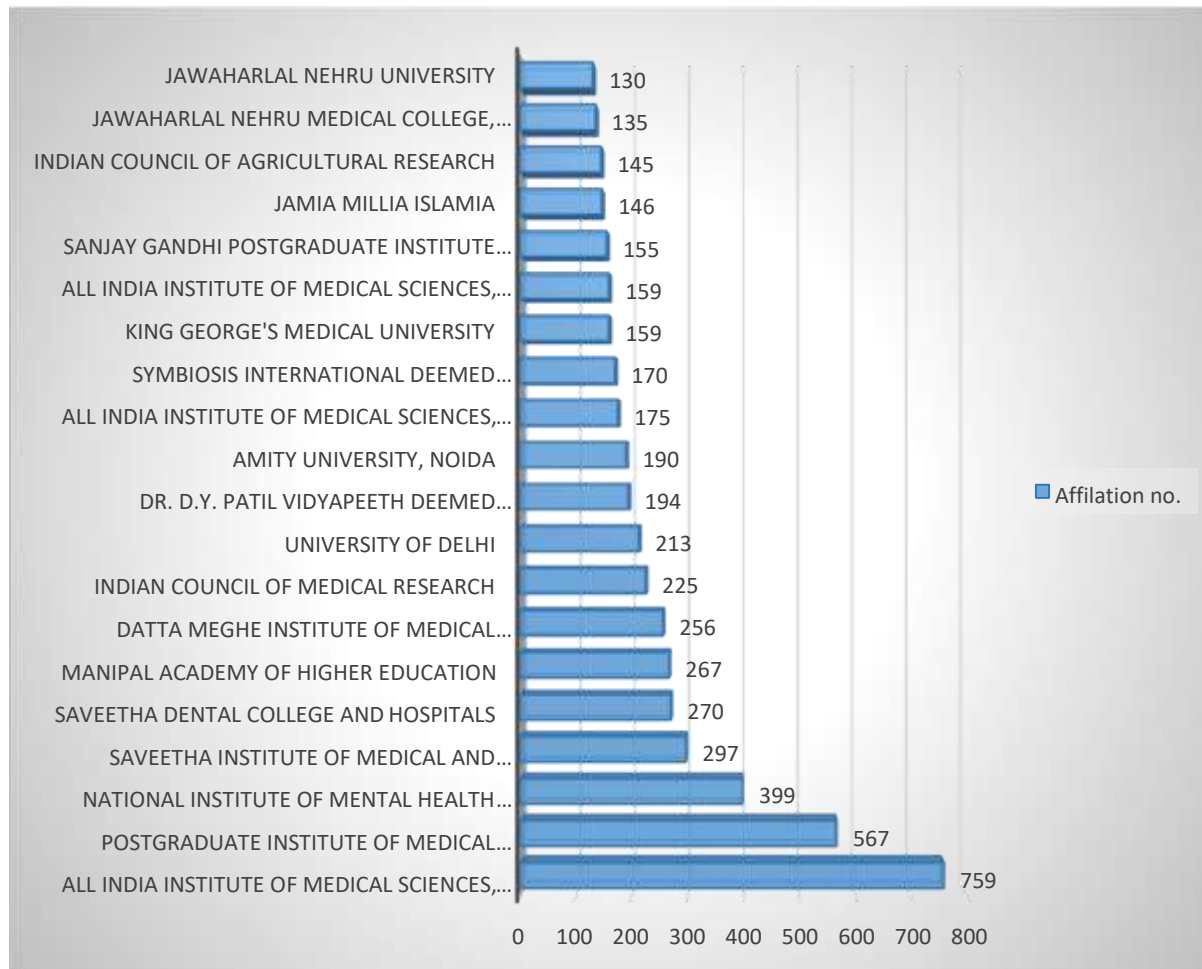
## 7.3- Graphical representation of top 20 Journals



The most important departmental affiliations of COVID-19 are shown in graph 7.4. It has been discovered that the All India Medical Sciences Institute in New Delhi (759) was ranked first, followed by the Postgraduate Institute of Medical Education & Research (567), the NMI (399), the Saveetha Institute for Medical and Technical Sciences (297) and that Jawaharlal Nehru University was named 20th with 130 affiliates



## 7.4- Graphical representation of Top 20 Prolific department affiliations



Graph 7.5. Represents the top 20 Funding Institutes in the field of Covid-19. With 299 funding Department of Science and Technology, Ministry of Science and Technology, India ranked the first position followed by Indian Council of Medical Research (209), Department of Biotechnology, Ministry of Science and Technology, India (176), Science and Engineering Research Board (175), Council of Scientific and Industrial Research, India (165) and Department of Biotechnology, Government of West Bengal funded 41 papers and secured 20th position.

## 7.5- Graphical representation of top 20 funding institutes

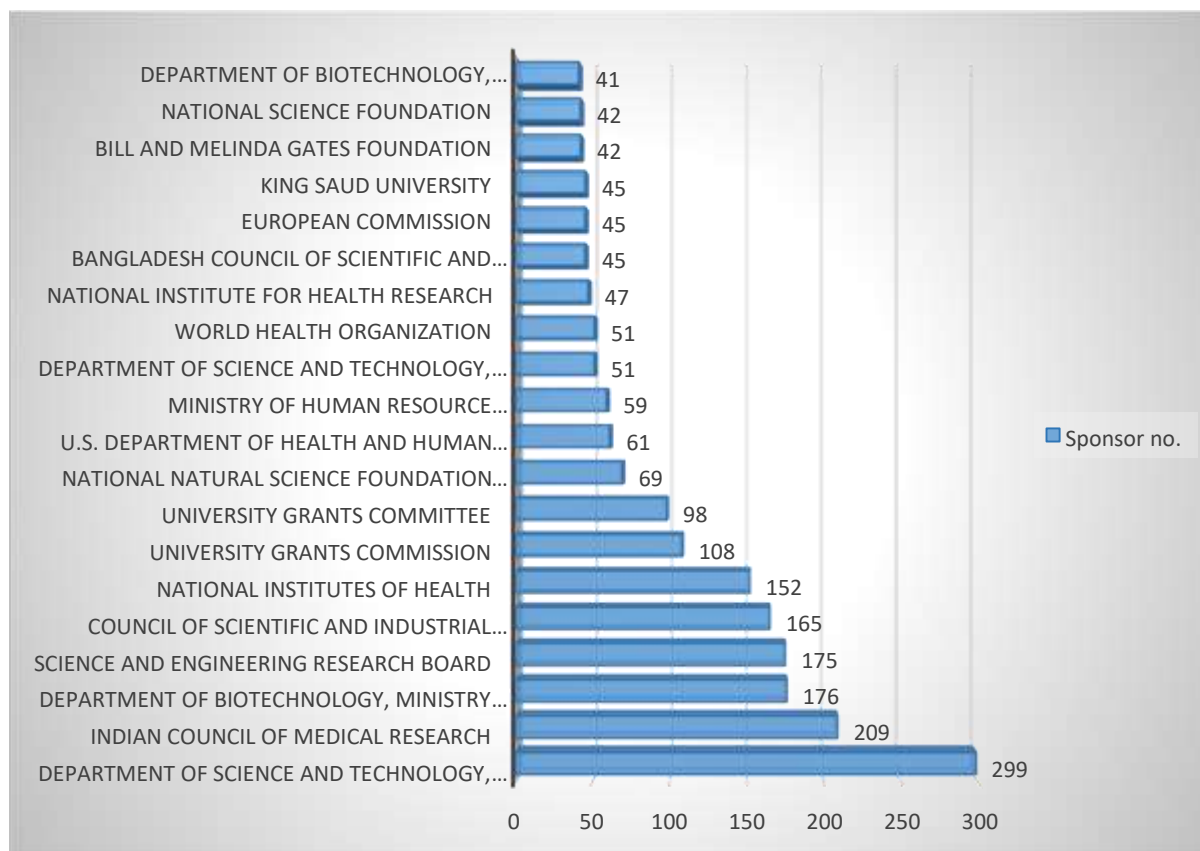


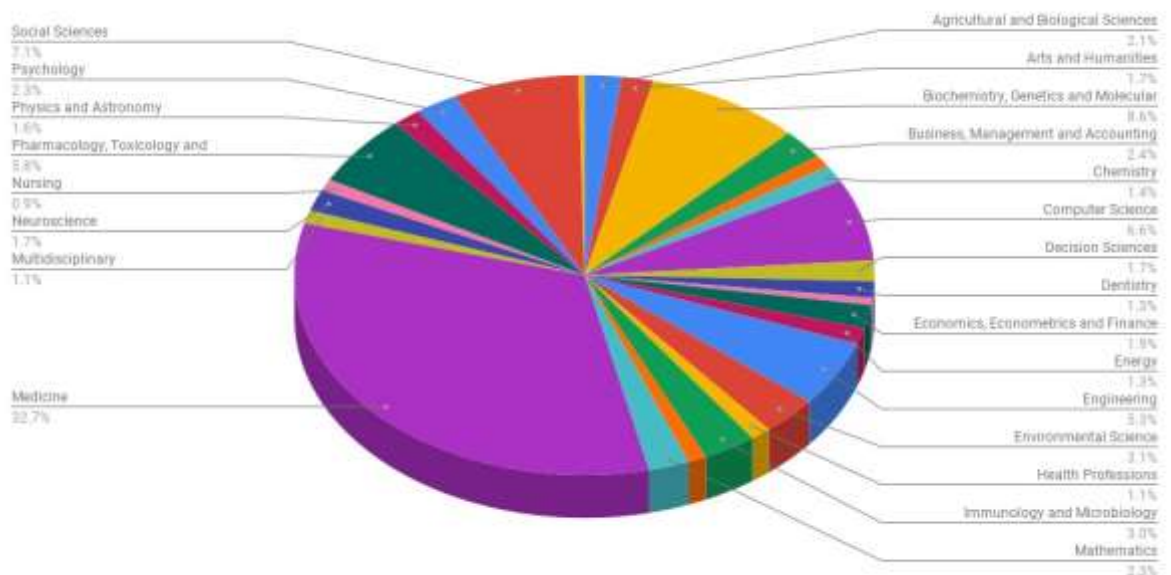
Table 7.3 displays the most popular subjects on the Covid-19, as measured by the number of articles published. After counting the number of papers published by subject, it was discovered that 27 subjects published articles on Coronavirus, with the highest number of 7923 (32.7%) papers published under the Medicine subject, followed by 2087 (8.6%) papers in Biochemistry, Genetics, and Molecular Biology, 1706 (7.1%) papers in social science, 1603 (6.6%) papers in computer science, and 13 papers in other subjects. Health professionals were in 20th place in the subject wise distribution with 214 (1.1 percent). In Figure 3.6, the subject area is shown readily by use of a pie chart. The subject and display area percentage each slice is compared to other subjects.

Table 7.3 - 20 most productive Subjects with Covid-19

No.	SUBJECT AREA	Paper Published	%
1.	Medicine	7923	32.7
2.	Biochemistry, Genetics and Molecular Biology	2087	8.6
3.	Social Science	1706	7.1
4.	Computer Science	1603	6.6
5.	Pharmacology, Toxicology	1394	5.8
6.	Engineering	1286	5.3
7.	Environmental Science	759	3.1

8.	Immunology and Microbiology	716	3.0
9.	Business, Management and Accounting	582	2.4
10.	Psychology	568	2.3
11.	Mathematics	551	2.3
12.	Agricultural and Biological Sciences	500	2.1
13.	Economics, Econometrics and Finance	450	1.9
14.	Decision Sciences	405	1.7
15.	Arts and Humanities	423	1.7
16.	Physics Astronomy	385	1.6
17.	Chemistry	328	1.4
18.	Dentistry	319	1.3
19.	Multidisciplinary	255	1.1
20.	Health Professions	274	1.1

Graph 7.6- Subject representation with the help of pie chart



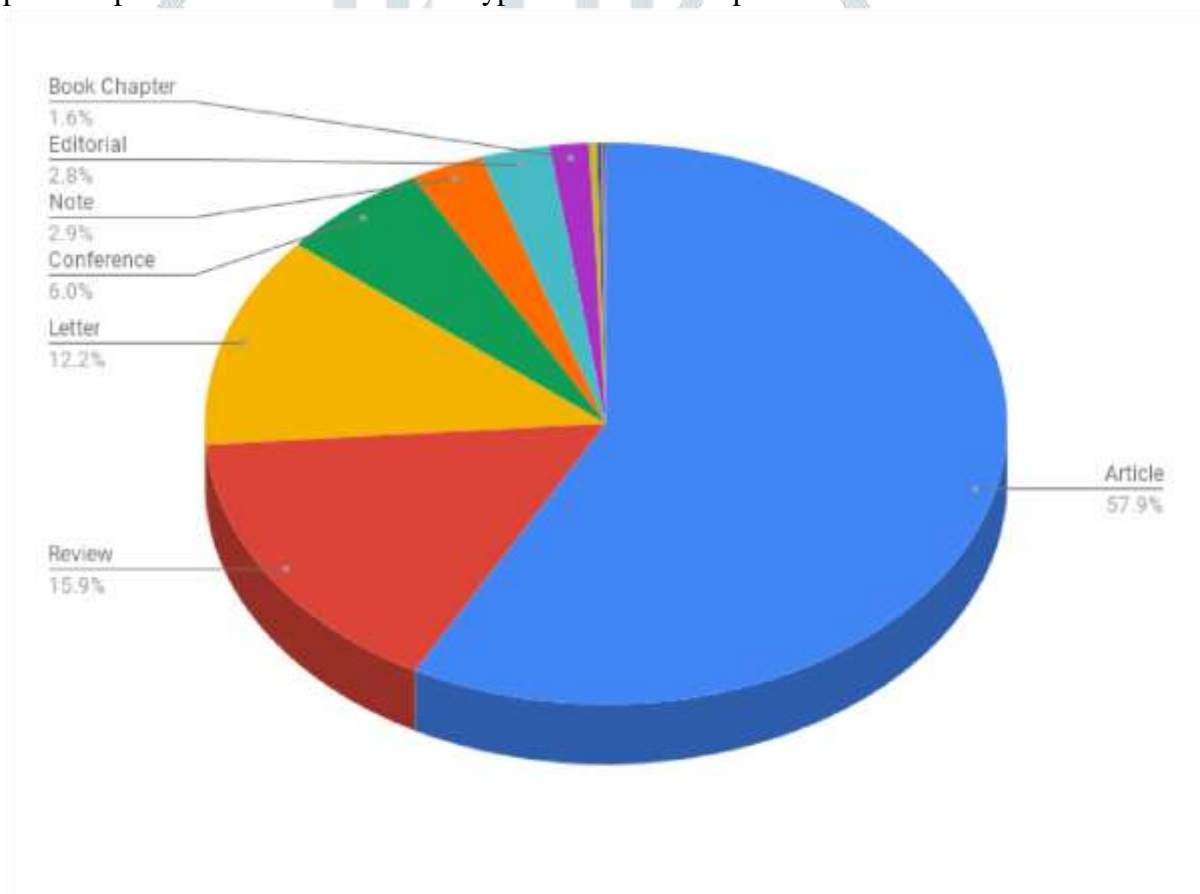
From 2019 to June 1, 2021, the most productive Sources produced Covid-19 papers, as shown in Table 8. The papers are categorised by source type, with the highest number of 8698 (57.90 %) papers published as journal articles, followed by 2392 (15.90 %) papers published as reviews, 1835 (12.2%) letters, 903 (6.0 %) conference papers, and only 238 (1.6 %) papers published as book chapters and only 12 (0.079 %) documents. As a result, it can be observed that more than 57 % of papers were published as journal articles, which is the most common type of document. Graph 3.7 document representation, is shown readily by use of a pie chart. The document type and display area percentage each slice is compared to other type of documents.



Table 7.4 -Document representation on Covid-19

No.	DOCUMENT TYPE	Document no.	%
1.	Article	8698	57.9
2.	Review	2392	15.9
3.	Letter	1835	12.2
4.	Conference Paper	903	6.0
5.	Note	440	2.9
6.	Editorial	417	2.8
7.	Book Chapter	238	1.6
8.	Short Survey	50	0.33
9.	Erratum	26	0.17
10.	Book	12	0.079
11.	Data Paper	11	0.073
12.	Retracted	4	0.026

Graph 7.7- Graphical representation the documents type with the use of pie chart



## Findings

India has mostly worked with the United States and the United Kingdom. With 1375 citations and 58 documents, Singh A.K. is the most prolific corresponding author (first position). With 310 publications, the journal International Journal of Research in Pharmaceutical Sciences is the most popular among writers for publishing Covid-19 research. Followed by Asian Journal of Psychiatry (245), Indian Journal of Ophthalmology (214) and Journal of Bio Molecular Structure and Dynamics (191). The majority of the articles were published without any financial assistance. However, With 299 funding Department of Science and Technology, Ministry of Science and Technology, India ranked first position followed by the Indian Council of Medical Research (209), the Department of Biotechnology, Ministry of Science and Technology, India (176). it was discovered that 27 subjects published articles on Coronavirus, with the highest number of 7923 (32.7%) papers published under the Medicine subject, followed by 2087 (8.6%) papers in Biochemistry,

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## Conclusion

The research presents a bibliometric examination of Indian contributions to Covid-19. This new viral epidemic has posed a threat to India's economic, medical, and public health infrastructure and the infrastructure of neighbouring countries. The new virus ("COVID-19") was discovered in December 2019. Unfortunately, the number of people who have died due to the new Coronavirus is growing every day. A total of 3,709,397 fatalities were reported worldwide, with 3,44,082 deaths registered in India. The most frequent symptoms of Covid19 are fever, dry cough, and fatigue. The majority of the papers were authored during Covid19's early stages. The bibliometric technique is critical for illustrating global research production on Coronavirus, as seen by the data described above. In addition, because Coronavirus is a recently diagnosed illness and a relatively new research area, the findings provide a "snapshot" of the field.

## Acknowledgement

We thank to Dr. Vijay Kumar Bharti (Assistant Librarian, Central Library, MGKVP Varanasi, [bharati.bhu@gmail.com](mailto:bharati.bhu@gmail.com)) for useful discussion and insights.

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