

GROWTH OF COVID-19 LITERATURE IN INDIA AND ITS NEIGHBORING COUNTRIES: A BIBLIOMETRIC STUDY

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The present study is based on the growth of literature in India and its neighboring countries. To compile the study 'global research database' of the World Health Organization (WHO) is used to collect the data. A total no of 811 articles was retrieved. The study's main objectives are to compare the growth of COVID-19 literature among Neighboring Countries of India. According to this study result, China has published the highest no of 450 articles in 2020, but in 2021 India acquired 1st rank by publishing 91 articles. The growth of publication by Pakistan, Nepal, and Bangladesh on covid 19 is not sufficient compared to India and China. It may be due to a lack of research infrastructure. More than 50% of the publication under study has been indexed in the Medline database. Most of the countries preferred the English language to publish the articles on covid 19 and covered the main subject 'Coronavirus Infections' followed by 'Pneumonia, Viral' (33.71%) and 'Pandemics' (15.88%).

Keywords: Coronavirus, Pandemics, Lockdowns, Bibliometric analysis, Literature, Respiratory fluids, Wuhan, Afghanistan, Bangladesh, Pakistan, Maldives

INTRODUCTION

The Corona virus disease 2019 (Covid-19) was first identified in December 2019 in Wuhan, China. It is caused by severe acute respiratory syndrome coronavirus 2(SARS-CoV-2). The World Health Organization declared a Public Health Emergency of International concern regarding COVID-19 on 30 January 2020 and later declared a pandemic on 11 March 2020. As of 19 May 2021, more than 164 million confirmed cases have been found, and more than 2.4 million deaths attributed to COVID-19 for making it one of the deadliest pandemics in history. Transmission of Covid 19 usually occurs when people inhale droplets or small airborne particles exhaled by an infected person. Less commonly, contaminated respiratory fluids can land on the mouth, nose, or eyes, and rarely can transmit via contaminated surfaces. The risk of infection is highest when people are nearby, but particles can travel long distances and remain suspended in the air for minutes to hours, particularly indoors in poorly ventilated spaces. People remain contagious for up to 20 days and can spread the virus even

if they do not develop any symptoms. ("COVID-19 Pandemic," 2021). Countries and territories in South Asia have also been affected by the Covid 19 pandemic. The first South Asian country to report a confirmed case was Nepal, which documented its first case on 23 January 2020, in a man who had returned from Wuhan on 9 January. As of 2nd July, at least one case of COVID-19 has been reported in every country in South Asia. Afghanistan, Bangladesh, Pakistan, and the Maldives have implemented lockdowns, Sri Lanka has responded with quarantine curfews while India and Nepal have declared a country-wide lockdown. Countries have also instituted various levels of restrictions on international travel, some countries have completely sealed off their land borders and grounded most international flights. ("COVID-19 Pandemic in South Asia," 2021). After arising covid 19 pandemics a large number of researchers across the globe engaged to write an article on it. The researchers of south-east Asian countries along with china have contributed a large number of a research database on covid 19. The present study is based on the growth of literature in India and its neighbouring countries. To compile the study 'global research database' of the World Health Organisation (WHO) is used to collect the data. Out of seven neighbouring countries of India Bhutan and Afghanistan have produced only one article of each. That's why these two countries have not considered for comparison among themselves.

Neighboring Countries of India

India is the seventh-largest in terms of area and 2nd most populous country in the world. India shares its land border with seven countries viz.

Afghanistan and Pakistan to the North-West; China, Bhutan, and Nepal to the North; Myanmar to the far East and Bangladesh to the East. It shares its sea border with Sri Lanka and the Maldives. The present study based on land border countries only. (*Neighbouring Countries of India 2020*, n.d.)

REVIEW OF LITERATURE

After identifying Covid 19 the scientists of different countries were engaged to research on coronavirus. As a result, a lot of literature all over the globe has increased rapidly. The neighbouring countries of India have also contributed lots of literature on it. Before writing this paper it, is essential to know whether it is a repetition of other work or not? Some of the similar types of work have been given here. Dehghanbanadaki et al. (2020) have conducted a bibliometric analysis on global scientific research on Coronavirus (COVID-19). To conduct the study the researcher retrieved 923 documents on covid 19. They found that per document got 2.76 average citations and an h-index of 23. According to the research, China ranked first with 348 documents, followed by the United States (n = 160). They also found that the Lancet and BMJ Clinical Research Ed published the most documents (each with 74 documents) and 2 institutions (the University of Hong Kong and Huazhong University of Science and Technology) ranked first in this regard (Dehghanbanadaki et al., 2020). Zyoud has intended to assess the growing contribution of the Arab world to global research on covid 19. He found that Saudi Arabia was the highest contributor of covid 19 publications followed by Egypt and UAE. He also found that the researcher

of Saudi Arabs mostly collaborated with the USA and UK (Sa'ed, 2021). Felice and Polimeni, have evaluated the research trends in coronavirus disease (COVID-19). They found that China has produced the majority of articles followed by the USA, UK, and Italy. They also found that the journal BMJ has published the highest no. of 129 papers but the journal Lancet has got highest no of 1439 citation (Felice et al., n.d.). Guleid and others have carried out a bibliometric analysis to describe the COVID-19 research output in Africa. To conduct the study, they retrieved a total no of 1296 articles from a different database. They found that 90.3% of the articles had at least one African researcher as an author. Over 13% of the articles were published in MedRxiv. The most common research topics include “country preparedness and response” (24.9%) and “the direct and indirect health impacts of the pandemic” (21.6%) (Guleid et al., 2021). It is found after the literature review that no researcher conducted any comparison study based on the *growth of COVID-19 literature among different Countries around the globe, especially in South Asian Countries. To fill this research gap, this study was conducted. The present study compares the growth of COVID-19 literature among Neighbouring Countries of India.*

OBJECTIVES OF THE STUDY

The primary objectives of the study are to compare the growth of COVID-19 literature among Neighbouring Countries of India. The secondary objectives of the study are as follows:

1. To compare country and year-wise distribution of articles.
2. To know country-wise types of collection.
3. To know about the articles covered by which kinds of databases.
4. To find out the language-wise distribution of articles among countries under study.
5. To find out the names of the top 5 main subjects covered by the articles.
6. To find out the names of the top 5 types of study and
7. To find the names of the top 10 journals covered the articles.

METHODOLOGY

To compare the growth of covid 19 literature among neighboring countries of India, secondary bibliographic data was collected from the Global Research Database' of the World Health Organisation (WHO) which is freely available on the WHO website. At the time of searching 'covid 19' and 'country name' were used separately for each country and searched file was exported in CVS/excel for further analysis. It is found after searching that out of seven neighboring countries of India Bhutan and Afghanistan have produced only one article of each. That's why these two countries have not considered for comparison among themselves. Last of all 811 articles were collected from India, Pakistan, China, Bangladesh, and Nepal on 16/05/2021. After collecting data these are analyzed by using Excel software.

DATA ANALYSES

Table 1: Country and year-wise distribution of articles

Collection	India	Pakistan	China	Bangladesh	Nepal	Total	%
International Databases	95	10	358	3	6	472	58.20
Databases of International Organisations	148	9	119	5	11	292	36
Preprint	28	3	11	4	1	47	5.8
Total	271	22	488	12	18	811	100

It is seen from Table 1 that in the year 2020 China has published the highest no. of 450 articles followed by India with 180 articles. But in 2021 India has published the highest no. of 91 articles

followed by China. Overall, China acquired 1st rank by publishing 60.17 percentage of articles and Bangladesh belongs to the last position (5th rank) with 1.48% of articles.

Table 2: country-wise types of collection

Countries	2020	2021	Total	Percentage	Rank
India	180	91	271	33.42	2 nd
Pakistan	13	9	22	2.71	3 rd
China	450	38	488	60.17	1 st
Bangladesh	6	6	12	1.48	5 th
Nepal	12	6	18	2.22	4 th
Total	661	150	811	100	

It is seen from Table 2 that out of 811 articles international databases have incorporated the highest no of 472 (58.20) articles followed by Databases of International Organisations with 292 (36%) of articles. In publishing preprint articles India got 1st position with 28 articles followed

by China with 11 articles. Though China becomes highest by publishing 358 articles in international databases, India becomes highest in the publication of 148 articles in the Databases of International Organisations.

Table 3: Databases covered by the countries publications

Databases	India	Pakistan	China	Bangladesh	Nepal	Total	%
Medline	88	9	328	3	6	434	53.51
WHO covid	148	9	119	5	11	292	36.00
LIACS(Americas)	0	0	19	0	0	19	02.34
Elsevier	7	1	11	0	0	19	02.34
MedRxiv	27	3	10	4	0	44	05.43
bioRxiv	1	0	1	0	0	2	00.25
Web of Science	0	0	0	0	1	1	00.13
Total	271	22	488	12	18	811	100

Table 3 shows no. of articles published on covid 19 by different countries have indexed in different databases. There is the largest no. of 434 (53.51%) articles that have been indexed in the Medline database. Out of 434 articles China has published the highest no. of 328 articles followed by India with 88 articles. On the other hand, in

the WHO covid database, India published the highest no. of 148 articles followed by china with 119 articles. Except for Nepal no other country has indexed in Web of Science. Only two countries viz., India and China indexed in bioRxiv database. Same no. of 19(02.34%) articles has indexed in LIACS(Americas) and Elsevier database.

Table 4: Language wise distribution of articles

Language	India	Pakistan	China	Bangladesh	Nepal	Total	%
English	194	13	415	5	14	641	79.04
Spanish	0	0	23	0	0	23	2.84
Portuguese	0	0	6	0	0	6	0.74
French	0	0	4	0	0	4	0.49
Russian	0	0	4	0	0	4	0.49
Others	77	9	36	7	4	133	16.40
Total	271	22	488	12	18	811	100

Table 4 shows the language-wise distribution of articles among countries. It is seen from the table that most of the countries preferred the English language to publish the articles on covid

19. Out of 811 articles, 641(, 79.04%) were published in the English language. Except for China no other countries published in Spanish, Portuguese, French, and Russian language.

Table 5: Names of the top 5 main subjects covered

Main Subject	India	Pakistan	China	Bangladesh	Nepal	Total	%
Coronavirus Infections	27	2	304	0	2	335	34.32
Pneumonia, Viral	27	2	298	0	2	329	33.71
Pandemics	18	1	134	0	2	155	15.88
Betacoronavirus	10	1	125	0	0	136	13.93
Infection Control	6	1	14	0	0	21	2.16
Total	88	7	875	0	6	976	100

It is seen from Table 5 that most of the articles (34.32%) are covered the main subject 'Coronavirus Infections' followed by 'Pneumonia, Viral' (33.71%) and 'Pandemics' (15.88%). On the other hand, the publication of Bangladesh had

not covered any one of these top 5 main subjects. India, Pakistan, and Nepal have covered the same no. of articles in the main subject 'Coronavirus Infections' and 'Pneumonia, Viral'.

Table 6: The top 5 types of study

Type of study	India	Pakistan	China	Bangladesh	Nepal	Total	%
Risk factors	27	3	115	2	2	149	29.39
Prognostic study	14	1	104	1	2	122	24.06
Diagnostic study	14	0	76	0	1	91	17.95
Etiology study	7	1	59	0	1	68	13.41
Observational study	14	1	60	1	1	77	15.19
Total	76	6	414	4	7	507	100

It is seen from Table 6 that 29.39% of the articles are covered under the study of risk factors. India has done the same no. of Prognostic,

Diagnostic, and observational study. Bangladesh has done neither Diagnostic study nor Etiology study.

Table 7: List of the top 10 journals covered the articles

Journal's name	No of articles covered by 5 countries
International Journal of Research in Pharmaceutical Sciences	19
European Journal of Molecular and Clinical Medicine	18
Indian Journal of Forensic Medicine and Toxicology	14
Diabetes Metab Syndr	13
International Journal of Pharmaceutical Research	13
International Journal of Current Research and Review	9
J Assoc Physicians India	8
Library Philosophy and Practice	8
Acta Biomed	7
Management Accountant	6

It is seen from Table 7 that 'International Journal of Research in Pharmaceutical Sciences' has covered the highest no of 19 articles followed by 'European Journal of Molecular and Clinical Medicine' with 18 articles and 'Indian Journal of Forensic Medicine and Toxicology' with 14 articles. The journal 'Management Account' has covered the smallest no. of 6 articles.

CONCLUSION

At this movement, the research work on covid 19 has increased at high speed all over the globe. The neighbouring countries of India are not going behind. Similarly, the research work on covid 19 is going on. According to this study result, China has published the highest no of articles in 2020, but in 2021 India acquired 1st rank. The growth of publication by Pakistan, Nepal, and Bangladesh on covid 19 is not sufficient compared to India and China. It may be

due to a lack of research infrastructure. More than 50% of the publication understudy has been indexed in the Medline database. Most of the countries preferred the English language to publish the articles on covid 19 and covered the main subject 'Coronavirus Infections' followed by 'Pneumonia, Viral' (33.71%) and 'Pandemics' (15.88%). It is also found from the study that, 'International Journal of Research in Pharmaceutical Sciences' has covered the highest no of 19 articles followed by 'European Journal of Molecular and Clinical Medicine' with 18 articles. It is seen from Table 7 that 'International Journal of Research in Pharmaceutical Sciences' has covered the highest no of 19 articles followed by 'European Journal of Molecular and Clinical Medicine' with 18 articles and 'Indian Journal of Forensic Medicine and Toxicology' with 14 articles. The journal 'Management Account' has covered the smallest no. of 6 articles.

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