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Impact of the COVID-19 Pandemic on Social Media Use: Evidence from Scopus Database

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ABSTRACT

Background: A cademia has come to focus more on the rising influence of social media during the Covid-19 pandemic, manily in response to its effects. The present study systematically examines global research trends over the past 6 years on the influence of the Covid-19 pandemic on social media use. Method: We searched the Scopus database for literature published during the year (2019–2024) regarding the worldwide effects of the Covid-19 pandemic on social media use. Data visualization and analysis were performed using R-Studio, VOSviewer, GraphPad Prism (version 5), and OriginPro 8 (OriginLab Corp.) to analyze bibliometric data and produce tables and figures. Results: Of 1,192 documents identified through searching Scopus databases, including 1172 Articles and 20 reviews, were retrieved between 2019 and 2024. The number of publications is growing annually, reaching over 300 in 2021 and 2022. The countries with the most published articles were the United States, the United Kingdom, India, Spain, and China. University of Toronto, National University of Singapore, University College London, University of Pennsylvania, and Harvard Medical School have the highest output. The Journal of Medical Internet Research is the leading and most common journal in terms of the number of publications and citations in the field. As for authors, WANG Y from the School of Public Health, Fudan University, Fudan Institute of Health Communication, Shanghai, Chin has the highest number of published articles. Amgen is the funding agency. The National Institute of Health is among the top funding agencies, followed by UK Research and Innovation, which funded most of the research. According to keyword analysis, "social media," "Covid-19", "human," "pandemic," and "humans" are the five keywords Plus with the highest frequency of co-occurrence, where "Covid-19", "Twitter," "social media," "sentiment analysis," and "coronavirus," with the highest frequency of Authors Keywords co-occurrence. Conclusion: The Covid-19 pandemic has strongly influenced worldwide social media research and publications in the past six years. An increase in the emphasis

on behavior and machine learning studies, as identified through keyword analysis, reflects a shift towards an interdisciplinary study of the impacts related to the pandemic. Interest in the subject shifted from general topics of Covid-19 to specific fields like public health and computational methods. Twitter has been a key data provider, particularly in vaccine research, to help inform and shape existing policy discussions.

Keywords: Bibliometric Analysis, Covid-19, Social Media, Thematic Mapping, Citation Analysis.

INTRODUCTION

The first case of Covid-19 pandemic reported in Wuhan, China was brought challenges to global human well-being towards control and prevention[1]. The impact of the Covid-19 pandemic depends on how to control the misinformation that comes in many forms. Unfortunately, misinformation related to Covid-19 through social media contributed to the disminatiion of fake news among people through the online social media platforms[2]. As result, the massive number of citizens exposed to social media during Covid-19 outbreak in China, and social media was postivelly found to be associated with an increase in depression and anxiety among the general population in China[3]. The outbreak of Covid-19 in China has caused mental health problems for Chinese people[4] including medical health workers dealing with the Covid-19 in Wuhan[5]. With a huge number of citizens exposed to social media, many efforts have been taken place to pay more attention to mental health problems for people, especially depression and anxiety among the general population and combating "infodem " while combating during public health emergencies in China [3] and improve choices about what to share on social media towards the political fake news of covid 19 ases and mortality [2].

In response to the global pandemic, lockdowns, and social isolation, there was evidence of the proliferation of information and theories on social media about Covid-19. With reactions to Covid-19 in China, peoples life totally depends on social media, and the most common social media platforms, including Weibo, WeChat, and Toutiao were commonly used by Chinese as well as become the lifeline for almost all isolated people as well as channels to obtain information, exchange opinions , and use in information dissemination create fear for many people in China during the Covid-19 situation[6]. The current pandemic shows a remarkable increase in mental health, anxiety and depression levels among citizens[2].[7][8].

To date, only a few studies have been conducted as bibliometric analyses relating to Covid- 19 and Social media[7][8]. Bibliometric methods are used to assess the productivity of scientific research and fields quantitatively. Many researchers have used bibliometric analysis globally to expand on existing literature as a trend assessment tool. A classic example is an article written about the influence of the Covid-19 pandemic on mental health[9], Covid19- and Anxiety[10], the effects of Covid-19 pandemic on mental health[9] an application of Artificial Intelligence and Machine Learning in Oncology[11], Covid-19 and vaccine safety[12], and Rift valley fever[13].

The Covid-19 public health crisis continues to have a global impact[1], with social media platforms playing a significant role in information dissemination, social interaction, and mitigating social isolation. This study builds upon existing knowledge by presenting a

comprehensive systematic and thematic analysis of global research productivity on the influence of social media during the Covid-19 pandemic. By using bibliometric tools for the analysis, the data will offer valuable insights and guidance for future research directions in this important and rapidly evolving field.

METHODS

Study Design

The study employed a systematic and thematic analysis approach to examine global literature and reviews concerning the influence of social media on Covid-19. The bibliometric analysis tool was used to assess the trends, authors, countries, journals, and keywords using thematic and themetic evaluation analysis of the reported topic over past six years.

Data Sources

The global documents on the influence of social media on Covid-19 were synthesized using the Scopus database (https://www.scopus.com/). Scopus is the largest abstract and citation database that provides scholars with reliable and comprehensive bibliographic records, citations, and abstracts of scholarly literature, along with numerous features that support in-depth analysis using machine learning tools.

Search Strategy

On April 11, 2025, the research criteria were set as follows: The query search was conducted using Boolean operators “AND” and “OR” to refine the results. Two authors independently screened the documents based on the research title by using the KeyWords on covid 19 previously reported by Mai and Akintunde et al. 2021[10][12]. The query search through the Scopus databases using the following strategy

TITLE("2019-Coronavirus" OR "2019-CoV" OR "2019-CoV" OR "2019-New Coronavirus" OR "2019-ovelCoronavirus" OR "CoronaVirusDisease-2019" OR "Coronavirus 2019" OR "Coronavirus Disease 2019" OR "Coronavirus Disease" OR "Coronavirus-2019" OR "COVID19" OR "COVID-19" OR "nCoV2019" OR "nCoV2019" OR "nCoV-2019" OR "Novel Coronavirus 2019" OR "SARS coronavirus 2" OR "SARS-CoV2" OR "SARS-CoV-2" OR "Severe Acute Respiratory Syndrome Coronavirus 2" OR "Wuhan Coronavirus" OR "Hubei Coronavirus" OR "CoronaVirus" OR "Coronavirus" AND "Facebook" OR "WhatsApp" OR "Tikto k" OR "Twitter" OR "Linkedin" OR "Snapchat" OR "telegram" OR "Socialmedia" OR "SinaWeibo ") AND PUBYEAR > 2018 AND PUBYEAR < 2025 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "re")) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (LANGUAGE , "English")). The results after inclusion and exclusion criteria indicated that the first article on COVID-19 and social media was published in 2019. A total of 2421 records were retrieved. We then excluded 1349 literature studies on review articles, meeting abstracts, editorial material, letters, early access, news items, corrections, proceeding papers, book chapters, data papers, and reprints. The final search yielded 1,192 documents.

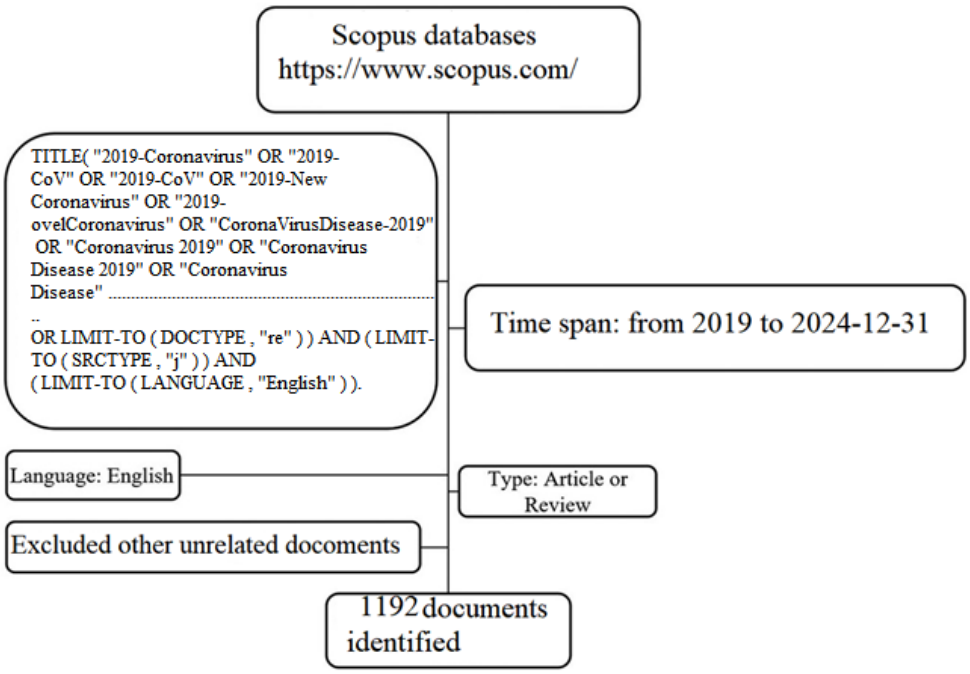


Figure 1: Flowchart of the literature search on Influnce of the social media on the Covid-19 indexced in Scopus databases.

Inclusion and Exclusion Criteria

The search results were to include only original research articles published in the English language; other languages were excluded from the analysis. Only full research articles were included, and other types of documents (review, editorial, research note, letter, min review, and book. and other articles like data in brief) were also excluded from the analysis. In total1192, articles within the timespan of 2019 to 2024 were identified. The retrieved data on the influence of social media on Covid-19 included the citation information, bibliographical data, Indexed Keywords, Country or region, authorship, journals, and references. The top-cited articles on the influence of social media on Covid-19 were sorted by the "Times cited." For further analysis, the final metadata was exported into BIB TeX, RIS, Or Commo-separated value (CSV) Excel format. Ranking of the Top performance of the Journal was based on the number of articles and citations.

Data Analysis

A comprehensive analysis of global publications was conducted using bibliometrics. R package was used to perform a comprehensive science mapping analysis[14], Vosviwer software 1.6.10 (Van Eck and Waltman, 2010) was used to facilitate the social network and map the scientific publications for researchers based on the analysis of co-citations between authors, countries, and sources [15]. Moreover, the thematic evolution of reported Keywords Plus was analyzed by using Bibliometrix (R package for comprehensive analysis) to assess the future research direction and research themes categorizing into emerging/declining themes, followed by basic, Motor, and Niche over different time slices to understand better the academic structure and dynamics of a scientific social media on the Covid-19 field.

RESULTS

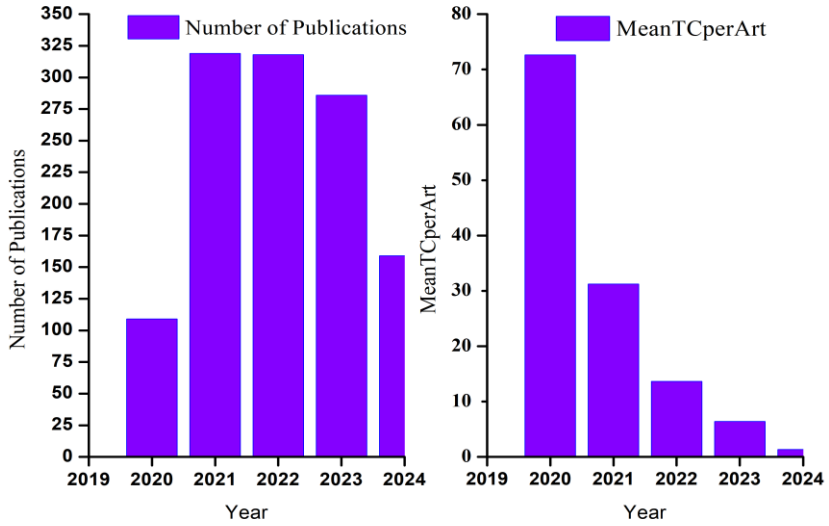


Figure 2: Global trend and citations related to social media on the Covid-19 from 2020 to 2024.

Annual Global Trends of Publication

The number of publications reveals the trend in social media on the Covid-19 research development in a certain field. As shown in Figure 2, the annual size of literature in this field reached over 318 in 2021 and 2022; it grew rapidly from 2016 onward, with 175 papers published by 2022.

Table 1: Charctristics of the global docuemtns on Influnce of the social media on the Covid-19

Description	Results	Description	Results
Main Information About Data		Authors	
Timespan	2020:2024	Authors	4192
Sources (Journals, Books, etc)	664	Authors of single-authored docs	97
Documents	1192	Authors Collaboration	
Annual Growth Rate %	-60.87	Single-authored docs	103
Total citation for publications	24,281	Co-Authors per Doc	4.11
Document Average Age	2.94	International co-authorships %	26.76
Average citations per doc	20.37	Document Types	
Document Contents		Article	1172
Keywords Plus (ID)	2905	Review	20
Author's Keywords (DE)	2636		

The Global Overview and Characteristics of Publication Outputs

A total of 1192 publications were identified using the Scopus database. Among these, 1172 (98.32%) were articles, while 20 (1.68%) were reviews. Initially, there was limited research focus in this area. However, those documents were published in 664 Journals, and a consistent upward trend has been observed since 2013. Between 2014 and 2023, 4192 authors, with 97 Authors of single-authored docs, were reported 1192. Excluding self-citations, the 1,192 articles accumulated 24,281 citations, yielding an average of 20.37 citations per document

(Table 1). This shows that researchers and scholars remain optimistic about the influence of social media on Covid-19, which is an issue that needs to be given sufficient attention by academics to fight the Covid-19 pandemic by controlling social media.

Table 2: Sources of journal with contribution of 4 or more articles on influence of social media on Covid-19

Source (n= 664)	**h_index**	**g_index**	**TNC**	**TNP**
Journal of Medical Internet Research	25	57	3413	57
International Journal of Environmental Research and Public Health	16	29	871	37
Plos One	14	30	1108	30
Jmir Infodemiology	7	15	264	26
Jmir Formative Research	5	6	61	18
Jmir Public Health and Surveillance	15	17	1821	17
Vaccines	9	17	327	17
Social Network Analysis and Mining	6	10	104	14
Heliyon	8	13	351	13
Social Media and Society	7	13	222	13
Total	112	207	8542	242

Analysis of Influential Journals

Table 2 presents the details of the top 10 influential journals that published documents on the influence of social media on Covid-19. Regarding journals, Journal of Medical Internet Research (TNP: 57, TNC: 3413, and h_index: 25) emerged as the leading source of publisher in this field of influence of social media on Covid-19, followed by International Journal of Environmental Research and Public Health TNP:47, TNC: 871, and h-index: 16), and the Plos One (TNP:30, TNC: 1108, and h_index:14). Collectively, papers published in the top ten academic journals constituted 20.30% of all papers (n=1,192). Notably, the Journal of Medical Internet Research, Plos One, and JMIR Public Health and Surveillance, despite ranking Number of publications, had the highest Number of citations score (> 1000 Citations). There is a significant correlation between the Number of articles and the Total Number of citations (r=0.4830, P<0.0001), H_index, r=0.9026, P<0.0001), G_index r=0.9673, P<0.0001), and m_index r=0.6140, P<0.0001) respectively.

Table 3: Most corresponding author's country and most cited countries on influence of social media on Covid-19

Corresponding Author's Country					**Most Cited Countries (77)**		
Country (n=78)	Articles	Freq	SCP	MCP	Country (n=28)	Total Citations	AAC
USA	270	22.7	232	38	USA	7022	26.00
United Kingdom	75	6.3	37	38	United Kingdom	2379	31.70
India	67	5.6	53	14	China	1505	31.40
Spain	52	4.4	42	10	India	1054	15.70
China	48	4	25	23	Australia	1028	30.20
Canada	46	3.9	30	16	Singapore	906	41.20
Italy	46	3.9	33	13	Canada	841	18.30
Australia	34	2.9	27	7	Spain	748	14.40
Indonesia	23	1.9	19	4	Italy	679	14.80
Saudi arabia	23	1.9	18	5	Thailand	494	49.40

TC: Total citations; AAC: Average Article Citations; Single country publication (SCP), and Multiple country Publication (MCP); UK: United Kingdom; AAC: Average Article Citations;

Analysis of Most Corresponding Author's Country

Seventy-eight corresponding authors and countries contributed to social media's influence on Covid-19 publications. The USA and China were the most productive countries for research, with published (36%) articles. In addition, research published by Chinese and USA authors was the most influential in terms of the number of citations. Moreover, multiple country publications were reported between the USA, China, the United Kingdom, Canada, and Hong Kong (Table 2). The top ten prolific countries contributed to social media's influence on Covid-19 publications. Display in Table 2. The USA, United Kingdom, and India were the most productive countries for research contributed to social media's influence on Covid-19 publications, with the USA leading with the highest number of articles (TNP: 270, SCP: 232: MCP: 38), followed by United Kingdom (TNP: 75, SCP: 37, and MCP:38). Notably, the USA also holds the highest citations among these countries (TNC: 7022), reflecting its prominent position in the field of to social media's influence on Covid-19 publications.

Table 4: Top 10 most infunce Authors

Author	h_index	g_index	TNC	TNP
WANG Y	8	14	286	14
ZHANG Y	8	11	220	11
AHMED W	5	6	667	6
BASCH CH	5	5	353	5
BROWNSTEIN JS	5	5	267	5
HUANG X	5	5	333	5
LIU J	5	5	170	5
LIU Y	5	5	105	5
ZHANG J	5	7	147	7
ZHANG W	5	6	147	6

Analysis of Most Profilic Authors on Scoial Media and Covid-19

According to the Scopus database, 4192 authors contributed to the research productivity on global social media and Covid-19. Enumerates authors with the highest number of publications in the field were reported. WANG Y from the School of Public Health, Fudan University, Fudan Institute of Health Communication, Shanghai, Chin was among the most influence authors with published (TNP:14, TNC:286, and h_index:8), followed by ZHANG Y with (TNP: 11, TNC:220, and h_index:8) among others (Table 4).

Table 5: Top 10 highly influence publication on Scoial media and Covid-19

Paper	Total Citations	TC per Year	Ref
COVID-19 and the 5G Conspiracy Theory: Social Network Analysis of Twitter Data	554	92.33	[16]
Tracking Social Media Discourse about the COVID-19 Pandemic: Development of a Public Coronavirus Twitter Data Set	499	83.17	[17]
Covid-19's impact on supply chain decisions: Strategic insights from NASDAQ 100 firms using Twitter data	377	62.83	[18]

Global Sentiments Surrounding the COVID-19 Pandemic on Twitter: Analysis of Twitter Trends	342	57.00	[19]
Public Perception of the COVID-19 Pandemic on Twitter: Sentiment Analysis and Topic Modeling Study	337	56.17	[20]
Twitter Discussions and Emotions about the COVID-19 Pandemic: Machine Learning Approach	274	45.67	[21]
COVIDSenti: A Large-Scale Benchmark Twitter Data Set for COVID-19 Sentiment Analysis	271	54.20	[22]
An exploratory study of COVID-19 misinformation on Twitter	259	51.80	[23]
COVID-19 Vaccine–Related Discussion on Twitter: Topic Modeling and Sentiment Analysis	244	48.80	[24]
Topic detection and sentiment analysis in Twitter content related to COVID-19 from Brazil and the USA	242	48.40	[25]

Analysis of Top 10 Most Cited Articles on Scoial Media and Covid-19

Highly cited articles on social media and Covid-19 indicate that the academic quality and impact of the paper are broadly recognized. The top highly cited articles are displayed in Table 5. The first highly cited article, "Covid-19 and the 5G Conspiracy Theory: Social Network Analysis of Twitter Data," received 554 citations[16], followed by "Tracking Social Media Discourse about the Covid-19 Pandemic: Development of a Public Coronavirus Twitter Data Set" with received 499 citations [17]. Overall, the top 10 cited articles received a citation range of 242 to 554, which provides evidence that can reflect hotspots in the field and is the focus of researchers[16–25].

Analysis of Influence Publication on Scoial Media and Covid-19

The top ten most cited publications on social media and Covid-19 was an article published in the JMIR Public Health and Surveillance titled "Public Perception of the Covid-19 Pandemic on Twitter: Sentiment Analysis and Topic Modeling Study" in 2017 by Boon-Ltt & Skunkan 2020. The authors highlighted that Twitter provides valuable insights into public awareness and concern about Covid-19. Besides, the authors recommended that future researchers and the scientific community should explore the role of social media in influencing public health communication and managing future health crises related to infectious diseases[26]. The top 10 most Highly influential publications on social media and Covid-19 reported the importance of tracking Covid-19-related misinformation on social media to combat fear, panic, and negative sentiment while also recommending emphasizing the need for strategic public health communication and real-time monitoring to enhance public health responses. Moreover, it suggests that there is a need for a talk gap in scientific coverage. It encourages actions from authorities and social media users to counter misinformation and better understand public responses across different countries in the world[20,27,28].

Table 6: Most top 10 profilc authors affiliations and subject area on social media on Covid-19

Affiliation (N=160)	TNP	Subject area (N= 27)	TNP	(%)
University of Toronto	20	Social Sciences	510	24.1
National University of Singapore	17	Medicine	406	19.2
University College London	16	Computer Science	338	16.0
University of Pennsylvania	15	Engineering	111	5.3
Harvard Medical School	13	Business, Management and	87	4.1

		Accounting		
Johns Hopkins University	11	Arts and Humanities	84	4.0
University of Southern California	11	Psychology	71	2.3
University of California, San Diego	11	Multidisciplinary	67	3.2
University of Pennsylvania Perelman School of Medicine	10	Environmental Science	58	2.7
University of Maryland, College Park	10	Health Professions	56	2.7

Sources : Scopus databases

Analysis of Institutions and Subject Area

Of 160 institutions that globally contributed to social media coverage of Covid-19, The University of Toronto was among the top leading institutions for article output in the field of social media on Covid-19 research, followed by the National University of Singapore (17) and University College London (15), representing the highest research.

Figure 3: The top 10 most funding Organization support the reseach on Social media on Covid-19 (N=159) fundign organizations

On the other hand, in the analysis based on the Subject area, we notice that 510 (24.1%) of documents were published in the area of Social Sciences, followed by Medicine 406(19.2%), and the area of computer sciences 338(16.0%) in others (Table 6). Of 159 funding organizations, the National Institute of Health is among the top funding agencies, followed by UK Research and Innovation for research in social media on COVID-19 research (Figure 3).

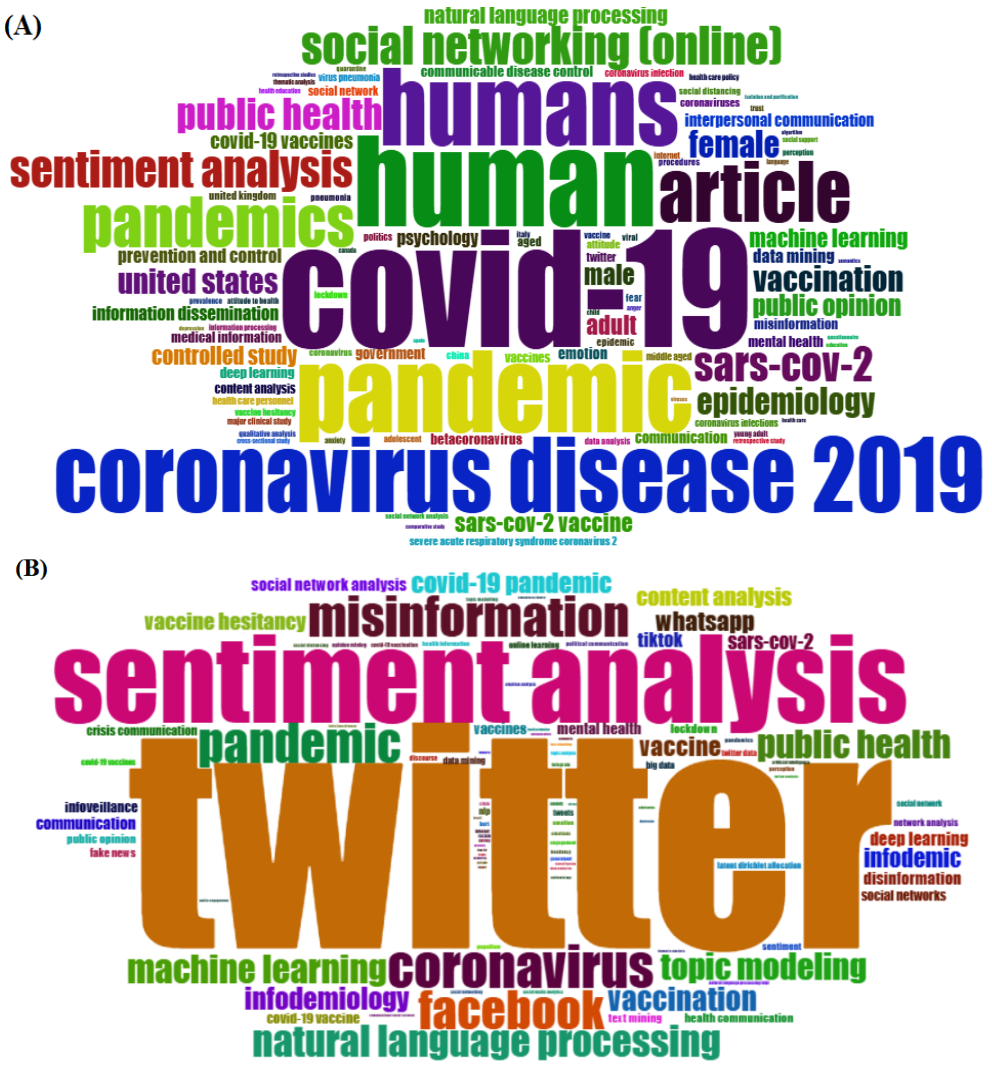


Figure 4: WordClud analysis of the top 100 frequency of the KeyWords Plus (A), and Authors KeyWords (B) on the top 100 cited articles on influence of the social media and?

Keywords Analysis

The thematic analysis of the top 100 Keywords among 2905 of the total Reported Keywords Plus were visualized in Figure 4.A. From the analysis, the Top 10 most frequent KeyWords Plus were (social media" (887)," Covid 19" (507), "human" (393), "pandemic" (357), "humans" (334), "coronavirus disease 2019" (327), "article" (261), "pandemics" (220), "social networking (online)" (165), and "sentiment analysis" (162), among others.

Thematic analysis of the top 50 authors' keywords was visualized using WordClud analysis from all 2636 co-occurrence analyses by R-studio. Among the top five frequency keywords are "Covid-19" (756), "Twitter" (455), "social media" (401), "sentiment analysis" (177), "coronavirus" (87), "misinformation" (82), "pandemic" (79), "64", "Facebook" (79), "natural language processing" (64), and "machine learning" (58) among others authors Keywords (Figure 4 A).

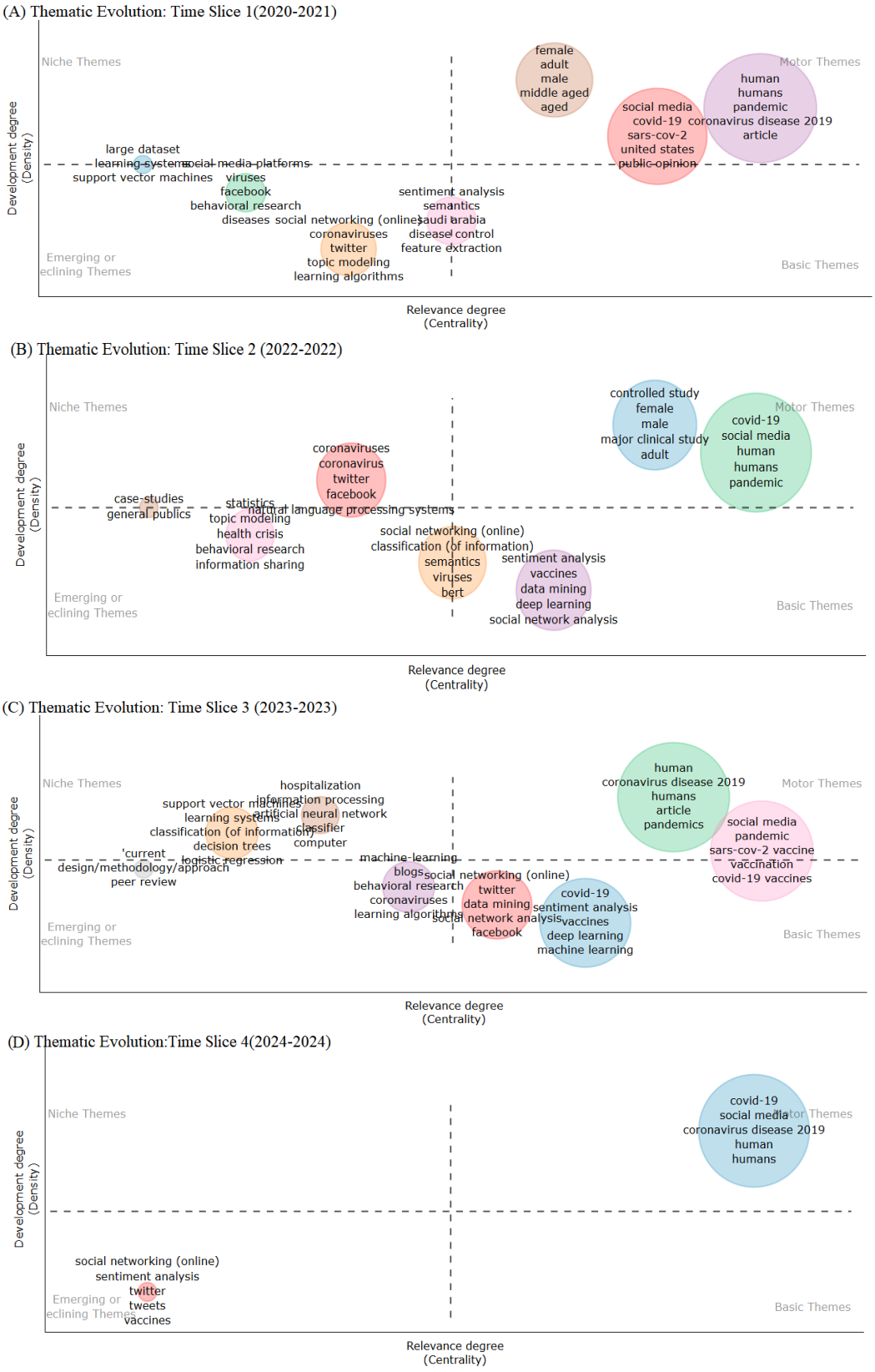


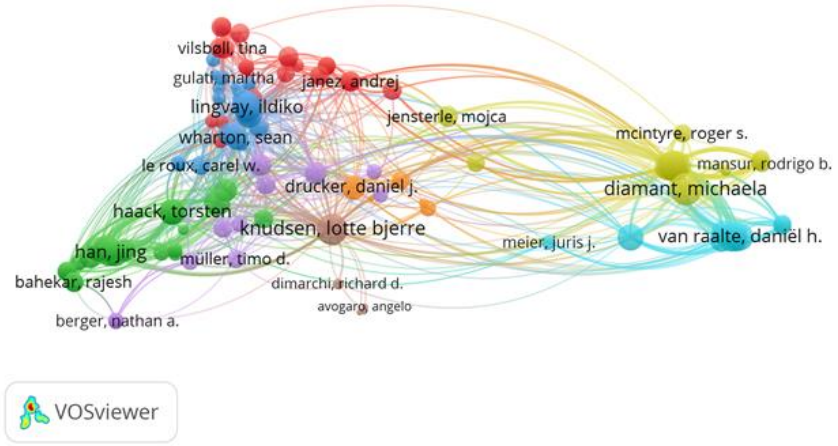
Figure 5: Thematic Evolution of Keywords Plus: Covid-19's Influence on Social Media Research (2020–2024)

Thematic Evolution of Thematic Evolution

R-studio with a package for comprehensive analysis was used to examine co-occurrence patterns of Keywords Plus on the influence of Covid-19 on social media within different themes "Emerging/Declining/Merging Themes (Lower-right) as presented in Figure 5. A; Basic Themes (Lower-left) as presented in Figure 5. B; Motor Themes (Upper-right), which are considered Well-developed, driving powers of the field of Covid-19's Influence on Social Media Research(Figure 5.C); and Niche Themes (Upper-left), which contain Specialized but isolated topics on the influence of Covid-19 on Social media (Figure 5.D).This figure illustrates the evolution of global Covid-19's Influence on Social Media research themes derived from Keywords Plus analysis, tracking shifts in COVID-19-related social media studies across four-time slices (2020–2024). Themes are classified into:

Emerging or Decling Themes (Lower-right) In the year 2020-2021, keyword plus such as "support vector machines," "viruses," Facebook," "behavioral research," "disease social network (online)," coronavirus," "Twitter," "learning algorithms" *was common topic reported (Figure A).*

(A)



In the years 2022-2022, the dominant Keywords Plus presented in "general public," "topic modeling," "Health crisis," "Behavioral research," and "information sharing." In addition to "social network (online)," "classification (of information), "semantics," "viruses," and "bert" are becoming evolving central topics between emerging topics and basic themes (Figure B). Behavioral research and learning algorithms suggest interdisciplinary efforts to model the COVID-19 10 pandemic impacts. Moreover, the analysis shows that the topics on Covid 19 and social media were Shift to Public Health and Computational Methods.

In 2023-2023, "peer review" and "design/methodology/ approach" are highlighted topics showing the maturation of pandemic-related frameworks., "learning algorithms," "coronaviruses," "behavioral research," and "blogs" machine learning" merged as emerging topics were comprehensively reflecting the use and roles of AI in health/behavioral studies (Figure A).

In the Years 2024-2024, new Keywords Plus, such as "Social network (online), sentiment analysis, Twitter, tweets as considered primary social media data sources, and vaccines, appear to provide evidence on emerges to ongoing policy debates (Figure D).

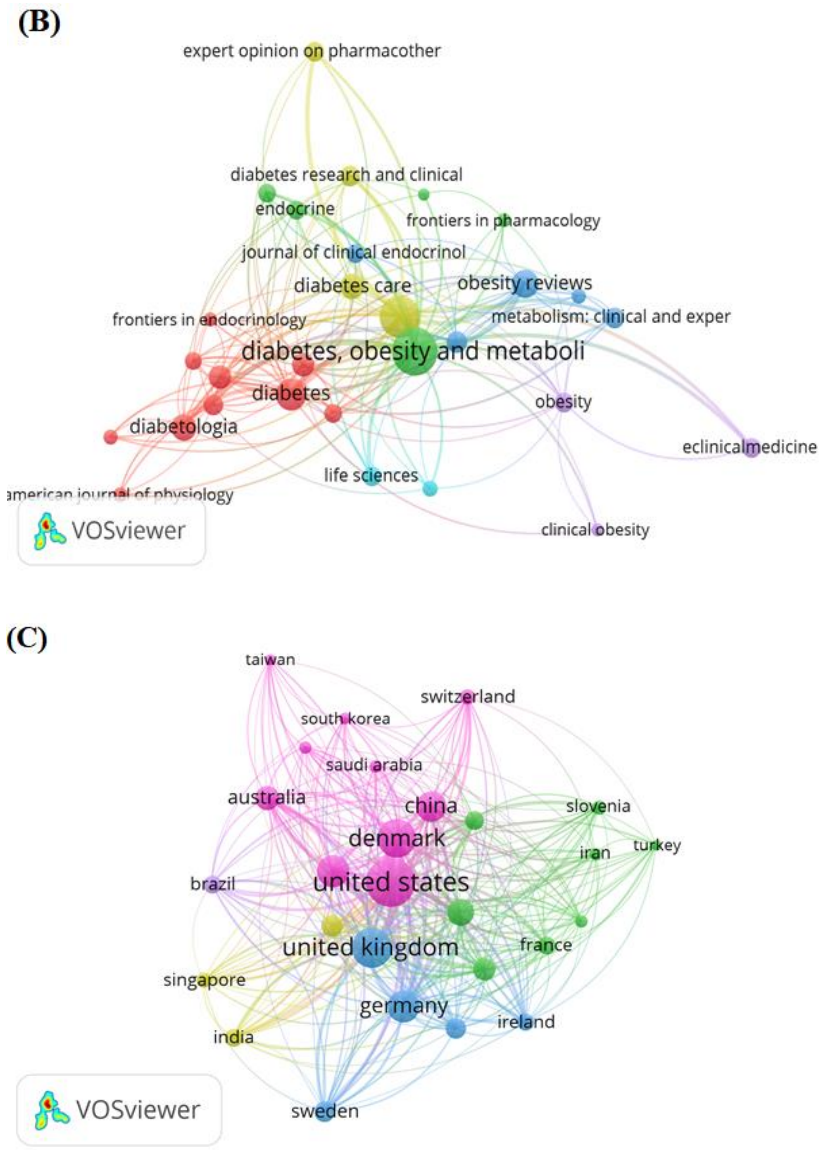


Figure 6: Network analysis of Authors, Journal, and Countries using VosViwer

Network Analysis

Co-citation between authors with a minimum of 5 citations per document shows that 108 authors were distributed into 6 distinguish clusters with Links (L=960) and Total Links Strength (TLS=2259), as shown in figure (Figure 5. A). Moreover, 29 number of reported sources were selected. Journal citations We investigate the sources cited by these top 100 cited articles. The minimum of 10 citations per document resulted in 32 journals being distributed into 5 clusters with (L=324) and (TLS=3181), as presented in (Figure 5. B). A minimum of 10 citations per country document resulted in 37 countries, which are shown in 6 distinguish clusters with Links (L=494) and (TLS=7116) as presented in (Figure 5. C).

DISCUSSION

In this study, the literature associated with the influence of social media was analyzed using Bibliometrix (R package for comprehensive analysis) and VOSviwer software, as well as a previously published bibliometric analysis conducted globally[10,11,35–37,13,14,29–34], towards assess the future research direction and research themes. The existing study extends the empirical understanding of the influence of social media in association with the Covid-19 public emergency. This analysis presents a trend analysis focusing on global research trends on social media published during year 2020 and 2024. Since 2020, the number of publications has increased rapidly and has exceeded 100 articles.

Papers on the influence of social media on Covid-19 are generally well-cited. The average number of citations for the sample composed of global publications is 20.37. The highest citation number is 559 by Ahmed W. et al. (2020) in an article published on "Covid-19 and the 5G Conspiracy Theory: Social Network Analysis of Twitter Data" [16], where authors stressed that most social media websites give users the option to report offensive content, which individuals should use. Rapid and focused intervention needs are required for the sources of disinformation as a key to reducing their influence. The second top most cited article by Chec E., 2020 under the title "Tracking Social Media Discourse About the Covid-19 Pandemic: Development of a Public Coronavirus Twitter Data Set," provides evidence that will help in tracking Covid-19-related misinformation and unproven rumors or enable the understanding of fear and panic more [27].

China and the USA have the most contributing authors on research focusing on the Covid-19 pandemic and social media. The study analysis of the global articles by frequency shows that the USA contributed to the fields. This evidence might be due to the first reported case in the region of the Covid-19 pandemic. Therefore, significant efforts were made to highlight the influence of social media during the Covid -19 and set the template for other researchers to cite their research. Research articles t by Ni MY et al. show mental health issues and the risk factors of social media during the Covid-19 outbreak in Wuhan City.

The authors recommend that social platforms be impactful in monitoring the Covid 19 pandemic[38]. Social media can also be used to track rumors and stigma during the Covid-19[39], while other researchers indicate that social media plays a significant role in spreading misinformation during the Covid-19 pandemic[40]. The consequences of social media remain vital in vaccine hesitancy and misinformation[41]. It becomes crucial for policymakers to explore how social media can be harnessed to improve health literacy and foster public trust in the vaccination process globally.

According to the thematic analysis of 250 keywords occurrence analysis, based on the keyword plus the most research density topics, the benefits of social media, use of Facebook, anxiety, and impact of social media. The author's research topic keywords are Infodemiology, Covid-19, Facebook, mental health, and China. Most of the hot topics in the title analysis were focused on Covid_19, Coronavirus, Coronavirus, and Twitter based on CallonCentrality, respectively. The keywords in recent years have suggested a research trend of enhancing the mechanism and fundamental investigation of social media influence on Covid 19. However, this study provided a new approach to the use of social media and education on how social media platforms can help reduce the mental health consequences of the Covid-19 pandemic, as well as crisis

management of the global health crisis [42]as an essential role in the mobilization of people and support them during the Covid-19 outbreak[43]. The results generated by using conceptual structure analysis of the top 100 KeyWords Plus into five clusters, denote the relationship between the themes of influence of social media on the Covid-19 articles, are in line with the research paths as well as presented in each cluster. Moreover, there is a concentration of research topics in blue clusters, followed by the green clusters; despite the difference in topic within each cluster, the analysis shows that the research on the influence of Social media on COVID-19 is closely related[44].

These articles provide information on the mental health problems due to social media exposure during Social media Covid-19 has offered fake news during the Covid 19, and the authors advised the public to seek accuracy about Covid 19 information before sharing on social media platforms[2].

The publication productivity and influence countries indicate that China and the USA are the top productive and influential countries in Covid-19. Social media research outcomes have also been reported in other published studies on Covid-19 globally. The United States undoubtedly holds a leading position that might be an excellent research institution or organization with sufficient financial support for scientific research. The analysis of single and multiple-country publications provides evidence that there is a scientific cooperation network between researchers within different countries (Table 3 & Figure 6C); there is close cooperation and communication between developed countries, such as the United States, China, Denmark, United Kingdom, and Germany, and so on. It is worth noting that although China is the only Asian country in the top 10 ranking for the number of publications, we notice equal cooperation between China and other countries based on the single-country publication and multiple-country Publications reported in Table 3. Moreover, few high-quality studies were published in top journals in China. Further analysis of cocitation analysis between the countries shows that Saudia Arabia, Switzerland, Taiwan, and South Korea exhibit research interest in this area of cooperation, in addition to developed countries such as Ireland, France, and Sweden.

The Journal of Medical Internet Research is one of the top journals that has published more than 57 articles on social media and Covid-19. The analysis of global research productivity on social media and Covid-19 provides evidence that researchers worldwide are interested in the influence of social media and Covid-19 and research toward enhancing policymakers, social and community health and understanding the influence of social media and Covid-19 on e-commerce and agriculture. The evidence by Keyword analysis results showed that the words reported in Covid-19 and social media within different clusters through using the frequency of keywords are changing in keyword analysis. The researcher also found that Twitter was an important source of health-related information, given the amount of news, opinions, and information that both citizens and official sources share.

The majority of research topics focus on Covid-19 misinformation on social media platforms such as Facebook (which has the most significant influence), followed by Twitter. Those social media platforms have greatly impacted people's health. Although his study is the first to present bibliometric analysis on Covid-19 and social media, the search was limited to the Scopus database and articles published in English. Hence, we cannot generalize the result since we do

not include those published articles in the Web of Sciences Core Collection, Google, and PubMed databases.

CONCLUSIONS

This is the first research to comprehensively review international social media and Covid-19 studies in the past year, counting scientific production on pandemic prevention and control. In its findings, the study declares China and the USA as high contributors, as the Journal of Medical Internet Research published the largest number of studies presenting leading research issues like health policy, social sciences, and e-commerce. This analysis of the existing literature highlights offering the scientific community a clearer understanding of the use, impact, and potential risks of social media during the Covid-19 pandemic. The in-depth insights are intended to support both researchers and social media stakeholders in managing the pandemic more effectively. The findings serve as a valuable reference and may inspire further research in this area.

Additionally, they can inform public policy decisions aimed at mitigating the effects of social media during health crises. By identifying key knowledge gaps and setting priorities for future research, the study encourages greater collaboration among stakeholders, researchers, and institutions. Future investigations should place greater emphasis on how Covid-19 has influenced community health, commerce, and the agricultural sector globally.

Conflict of Interest

The authors declare no conflict of interest

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