



ULISA: Uluslararası Çalışmalar Dergisi Journal of International Studies

Cilt 5, Sayı 2 - Volume 5, Number 2

Jahidul Islam SARKER* Tariquil ISLAM** Md. Nazmul ISLAM***
Moshiur RAHMAN****

* Faculty Member; Stamford University Bangladesh and Doctoral Scholar, Department of Journalism and Media Studies; Kocaeli University, Department of Journalism; jahidduasia@yahoo.com; ORCID: 0000-0003-3405-0957.

** Ankara Hacı Bayram Veli University, Department of Journalism; tariquislam89@gmail.com; ORCID: 0000-0003-4711-9829.

*** Assistant Professor; Ankara Yıldırım Beyazıt University, Department of Political Science and Public Administration; PD Fellow; Ankara University, Faculty of Communication; nazmulislamglobal71@gmail.com; ORCID: 0000-0002-8660-0415.

**** Anadolu University, Department of Journalism; moshiurrahman@anadolu.edu.tr; ORCID: 0000-0002-4923-6036.

Connected Academics: Bibliometric and Systematic Review on the Use of Social Media in COVID-19 Research in Bangladesh

The role of social media is an arguable issue during the coronavirus outbreak (COVID-19). In Bangladesh, the use of social media has increased considerably over the last few years. The study explored the use of social media for COVID-19 research within the context of Bangladesh. By putting together, bibliometric analysis and a systematic review, we analyzed 50 documents in this area. Our findings indicate that mental health, misinformation, physical health, education, and prevention are the major research topics in this area. The study revealed that Bangladeshi researchers used social media to gather and analyze social media content. The study also found that the survey was the most widely used methodology for pandemic research. Moreover, Mamun (2020, 2021, 2021a, 2021b), Islam (2020, 2021, 2021B), Sikdar (2020, 2021) are the most influential authors in this domain. The findings can help future researchers better understand social media's role and suggest new research areas.

Keywords: COVID-19, Social Media, Bangladesh, Bibliometric Analysis and Systematic Review.

İrtibattaki Akademisyenler: COVID-19 Araştırmasında Bangladeş'te Sosyal Medya Kullanımına İlişkin Bibliyometrik ve Sistemik İnceleme

Koronavirüs salgını (COVID-19) sırasında sosyal medyanın rolü tartışılabilir bir konudur. Bangladeş'te sosyal medya kullanımı son birkaç yılda önemli ölçüde arttı. Çalışma, Bangladeş bağlamında COVID-19 araştırması için sosyal medyanın kullanımını araştırdı. Bibliyometrik analiz ve sistemik incelemeyi bir araya getirerek bu alandaki 50 belgeyi incelemiştir. Bulgularımız ruh sağlığı, yanlış bilgilendirme, fiziksel sağlık, eğitim ve korunmanın bu alandaki başlıca araştırma konuları olduğunu göstermektedir. Araştırma, Bangladeşli araştırmacıların sosyal medyayı veri toplamak ve sosyal medya içeriğini analiz etmek için kullandığını ortaya koymuştur. Çalışma ayrıca, anketin pandemi araştırmaları için en yaygın kullanılan metodoloji olduğuna ulaşmıştır. Ayrıca Mamun (2020, 2021, 2021a, 2021b), Islam (2020, 2021, 2021B), Sikdar (2020, 2021) bu alanda en etkili yazarlar olarak belirlenmiştir. Bulgular, gelecekteki araştırmacıların sosyal medyanın rolünü daha iyi anlamasına ve yeni araştırma alanları önermesine yardımcı olabilir.

Anahtar Kelimeler: COVID-19, Sosyal Medya, Bangladeş, Bibliyometrik Analiz ve Sistemik İnceleme.

Araştırma Makalesi | Original Article

Atıf: *Ulisa: Uluslararası Çalışmalar Dergisi*, Cilt 5, Sayı 2 (2021), ss. 116-132.

Citation: *Ulisa: Journal of International Studies*, Vol 5, No 2 (2021), pp. 116-132.

Başvuru 13.12.2021 Received | Kabul 30.12.2021 Accepted

Ulisa: Uluslararası Çalışmalar Dergisi, Uluslararası İlişkiler ve Stratejik Araştırmalar Enstitüsü (ULISA) tarafından yayınlanmaktadır.
Ulisa: Journal of International Studies is published by the Institute for International Relations and Strategic Studies (ULISA).

E-ISSN:2602-3245 | <https://aybu.edu.tr/yulisa>

Connected Academics: Bibliometric and Systematic Review on the Use of Social Media in COVID-19 Research in Bangladesh

1. Introduction

The arrival of the COVID-19 virus impacted public health negatively (Mamun et al., 2021; Dhanani and Franz, 2020). It also severely affected many areas of human life (Fu, Hereward, MacFeely, Me, & Wilmoth, 2020). The research related to COVID-19 was not limited to the field of public health but goes beyond other areas of studies (Shek, 2021; Qiu, Park, Li, & Song, 2020; Ozdemir, 2020). The role of the media during the pandemic became a significant research area (Chao, Xue, Liu, Yang, & Hall, 2020; Liu, 2020). Media and social media have been used as a medium of updated news and information related to COVID-19 (Azlan, Hamzah, Sern, Ayub, & Mohamad, 2020). It is evident that social media is crucial both positively (Baniamin, 2021) and negatively (A. K. M. N. Islam, Laato, Talukder, & Sutinen, 2020). On the one hand, it creates awareness among the public (Almotawa & Aljabri, 2020). On the other hand, fake news and misinformation became widespread through social media during the pandemic (Al-Zaman, 2021b). Thus, multidisciplinary research has been conducted with social media at both the global level (Lazzini, Lazzini, Balluchi, & Mazza, 2021) and local levels (Holmes et al., 2020).

Multiple reviews have already been published based on articles on the use of social media in the health sector. While some studies focused on the use of social media from a broader health perspective, the latest review included the use of social media during the COVID-19 period. Moorhead et al. (2013) investigated articles related to the uses, benefits, and limitations of social media for health communication from 2002 to 2012 period. There were seven major uses found for social media in health communication, including improving relationships with people and supporting, sharing, and acquiring health messages. Chen & Wang (2021) reviewed the articles which discussed use of social media in health purpose. They reviewed articles from 2016 to 2020. They discovered that the number of publications steadily climbed over the course of five years, indicating that researchers were increasingly interested in using social media for health objectives. This paper summarized ten social media practices by health centers, health scientists, and the general public for diverse health reasons. During the initial outbreak, from November 2019 to November 2020, Tsao et al. (2021) reviewed empirical papers on COVID-19 and social media. They identified five major public health themes regarding the function of online social media platforms and COVID-19 after reviewing 81 studies. These themes included polling public opinion, recognizing infodemics, assessing psychological health, detecting or forecasting COVID-19 instances, analyzing government reactions to the pandemic, and assessing the quality of health records in prevention education films.

Social media users have been rising in recent years. Between 2020 and 2021, over nine million new users joined social media platforms in Bangladesh ("Bangladesh Charts 9m", 2021). The research found that Bangladeshi citizens use social media to get updated information. During the pandemic, Bangladeshi people rely on social media significantly for getting updates, sharing information, or expressing their views. A study found that creative social media use improves online knowledge of COVID-19 precautions, which helps avoid COVID-19 outbreaks in Bangladesh (M. M. Islam, Islam, Ahmed, & Rumana, 2021). So far there were no comprehensive review found that examine the use of social media during COVID-19 pandemic in Bangladesh.

So far, no comprehensive review has been found that solely focused the use of social media in Bangladesh perspective during the COVID-19 pandemic. This paper aims to present a comprehensive review of this research area. Based on the above discussion, this paper formulates four research questions: RQ 1: What is the central area of research in this domain? Which research methodologies have been used? RQ 3: How did social media facilitate COVID-19 research in Bangladesh? And RQ 4: Who are the top authors in this field?

In this study, we retrieved COVID-19 related research articles from the Web of Science database, which was studied using social media in Bangladesh. Firstly, we analyze the metadata of these studies by using the bibliometric analysis method, called the bibliometric R package. Later we reviewed the content of all papers manually. Our study presented the central area of research, types of data used in these studies, essential research findings, a list of top authors, and other vital issues.

2. Research Methodology

This study analyzed 50 documents that we retrieved from the Web of Science (WoS) database. The study employed SALSA methodology to obtain exact data for analysis.

The current study used the Web of Science (WOS) database to gather literature on COVID-19 and social media in Bangladesh. WOS is a worldwide recognized Clarivate Analytics-managed research platform that provides more than 50 million papers published in peer-reviewed journals across various research fields (Merigó, Mas-Tur, Roig-Tierno, & Ribeiro-Soriano, 2015). The WOS core collection comprises records of papers that date back to 1996.

This study adopts the SALSA framework for collecting relevant data from WOS. SALSA is a popular data collection method in the literature review. SALSA framework suggests a step-by-step search, Appraisal, Synthesis, and analysis process. This ensures the methodological procedures' accuracy, systematization, comprehensiveness, and reproducibility (Grant & Booth, 2009).

We first searched for COVID-19 related documents in the Web of Science database to select data. To get the same document, we used keywords "COVID-19", "Social Media," and "Bangladesh." Timespan was from 2020-2021. Initially, we found 72 documents. Among them, we excluded editorials, letters, and proceeding papers, and we took 65 documents as research articles, early access papers, and review papers. Later, we went through the titles and abstracts of 65 papers. At this stage, we excluded 15 papers that were not related to Bangladesh, or media, or COVID-19 keywords. We downloaded and finalized 50 documents as Bib TeX files and Excel files.

We employed bibliometric and systematic analysis to examine our selected 50 documents. In the first stage, we implemented a bibliometric study to obtain information such as top authors, top sources, and a summary of the metadata of these papers. In the second stage, we implemented a systematic review to synthesize key findings of these papers, reveal the methods used in these studies, and explore the types of social media used in the studies.

Bibliometric analysis is a popular method that allows the analysis of many pieces of literature using the R programming language. Previously, researchers employed bibliometric methods to estimate publishing activity across various fields (Pasadeos & Renfro, 1992) (Casado-Aranda, Sanchez-Fernandez, & Viedma-del-Jesus I, 2021). Recent years have seen a surge in the usage of bibliometric reviews, owing to their ability to map science via citations and co-citations (Ashraf Khan, Hassan, Paltrinieri, Dreassi, & Bahoo, 2020; Archambault, Campbell, Gingras, & Larivière, 2009). We used a systematic review as bibliometric analysis primarily focused on metadata to synthesize the literature.

We implemented a systematic literature review on our 50 documents and bibliometric analysis. A systematic review is characterized as "an evaluation of the evidence on an identified subject that employs systematic and explicit techniques for identifying, selecting, and critically appraising relevant primary research, as well as extracting and analyzing data from the included studies" (Wright, Brand, Dunn and Spindler, 2007). Reproducible and transparent approaches must be employed. (K. S. Khan, Ter Riet, Glanville, Sowden, & Kleijnen, 2001). It uses processes

that reduce biases and random errors to synthesize many connected primary research findings (Cook, Mulrow, & Haynes, 1997).

We formulated four research questions to systematically review our selected documents and manually went through the 50 papers. Later, we developed several tables to synthesize five data types about these papers, including sample size, methods, types of social media users, and these papers' findings. Our study presents a comprehensive review of this literature using bibliometric analysis and a systematic approach.

3. Findings and Analysis

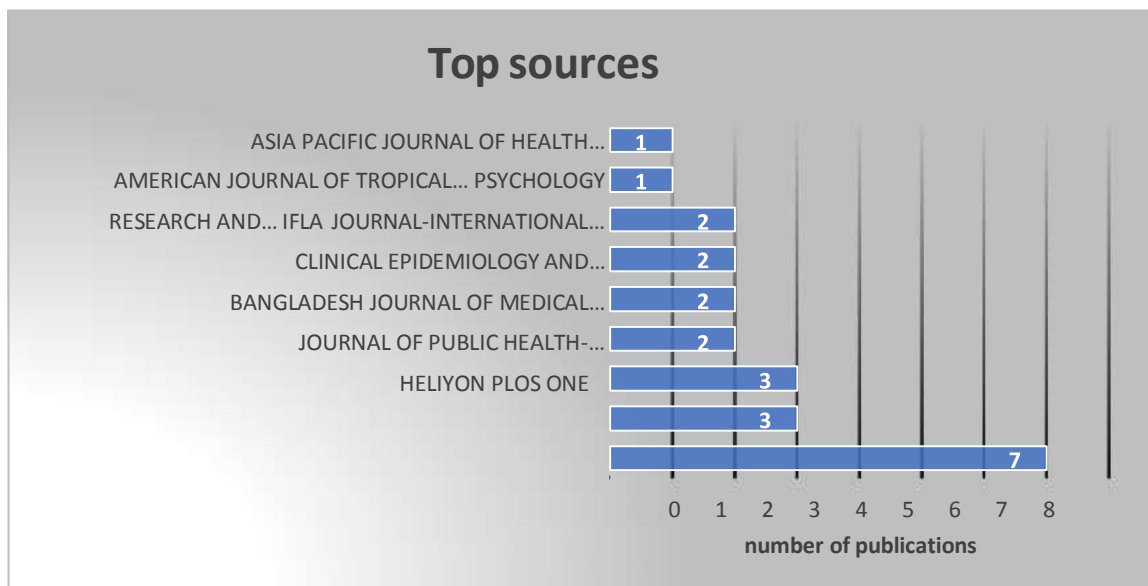
3.1. Summary of Data

Description	Results
Main Information About Data	
Timespan	2020-2021
Sources (Books, Journals, etc.)	36
Documents	50
Average years from publication	0.359
Authors	
Authors	305
Author Appearances	373

Table 1 Summary of data

The information gathered from the WOS core collection is summarized in Table 1. This study identifies 50 documents by 305 authors during 2020–2021. These documents were published from 36 different sources. The bibliometric analysis reveals that the COVID-19 research by social media can be characterized by high collaboration.

3.2. Top Sources



PLOS ONE became the most crucial journal to have published articles on COVID-19 and social media in Bangladesh regarding the number of documents. It published seven articles on this issue, while the journal of Public Health and Heliyon ranked second and third, respectively, having published three papers each.

3.2.1. Core Journals

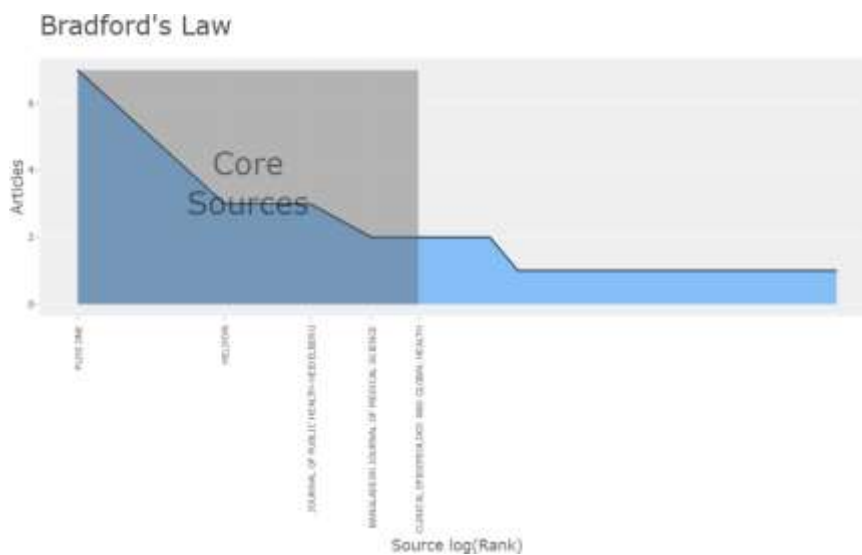


Figure 2 Bradford's Law

Bradford's law (Bradford, 1934) identifies five publications as the key journals in this discipline. For example, as demonstrated by the shaded region in Figure 2, these five journals produced one-third of the overall collection in this field. Seven papers (14%) are from the PLOS ONE journal, followed by articles from the Journal of Public Health and Heliyon.

3.3. Top Authors

Authors	Articles
MAMUN MA	6
ISLAM MS	5
SIKDAR MT	4
HASAN MT	3
HOSSAIN S	3
ISLAM MA	3
MIM SS	3
AL-ZAMAN MS	2
AL BANNA MH	2
AL MAMUN F	2

Table 2 Top Authors

In terms of the number of publications, Mamun MA contributed to the highest number of publications. Mamun MA and co-authors published six documents, while Islam MS and Sikdar MT published five and four papers, respectively.

3.4. Areas of Study

Area	Author
Mental Health	M. A. Mamun, 2021a; Ahmed, Aurpa, & Anwar, 2021; Ayatullah Khan et al., 2021 Alam, Bin Ali, Banik, Yasmin, & Salma, n.d.; M. S. Islam, Sujana, et al., 2021; M. I. Hossain, Mehedi, Ahmad, Ali, & Azman, 2021; Marzo, Singh, & Mukti, 2021; M. A. Mamun, 2021b; Ripon et al., 2020; M. A. Mamun et al., 2021; F. al Mamun, Hosen, Misti, Kaggwa, & Mamun, 2021; M. A. Rahman et al., 2020; M. A. Mamun et al., 2020 ; M. T. Hossain et al., 2020 ; Banerjee et al., 2020
Vaccine	Abedin et al., 2021; M. S. Islam, Kamal, et al., 2021; Musa & Husna, 2021
Misinformation	Yesmin & Ahmed, 2021; Al-Zaman, 2021a; M. S. Islam, Kamal, et al., 2021; Al-Zaman, 2021b; A. K. M. N. Islam et al., 2020
Policy	Cowley et al., 2021; Basher & Haque, 2021
Socio economy	Arafat et al., 2020; G. Rasul et al., 2021
Physical Health	Sikdar et al., 2021; Sharif et al., 2021; Baniamin, 2021; M. S. Islam et al., 2020; Malik et al., 2020
Education	Mathrani, Sarvesh, & Umer, 2021; Begum, Roknuzzaman, & Shobhane, 2021; Ali et al., 2021; Kundu et al., 2021; Kundu et al., 2021; Ferdous et al., 2020
Prevention measure	M. M. Islam et al., 2021; Das et al., 2021; Hosen et al., 2021
Others	Rashid, Idris, Zulkiflee, Yahaya, & Ramesh, 2021; M. S. Rahman, Alam, Salekin, Belal, & Rahman, 2021

According to table 3, the Mental health area witnessed the highest number of publications. Other key research areas include disinformation, physical health, education, prevention, and fewer published policy articles.

3.5. Key Features of Mental Health-Related Papers

Headline	Data	Method	Types of social media	Finding
Mental health impacts of COVID-19 outbreak and associated drivers among university students in Bangladesh	368 participants	Online survey	Not specified	Anxiety was estimated to be 87% prevalent.
Assessing the mental health condition of home- confined university level students of Bangladesh due to the COVID-19 pandemic	509 university students	Online survey	Facebook, WhatsApp, and Instagram	Students' mental health issues grew due to coronavirus exposure, insecurity, social media use, and smoking.
Problematic Smartphone and Social Media Use Among Bangladeshi College and University Students Amid COVID-19: The Role of Psychological Well-Being and Pandemic Related Factors	5,511 university students	Online survey	Not specified	Mean scores for USFP and USFP were 20.8 6.8 (out of 36) and 14.7 4.8 (out of 30).
Psychosocial stress and trauma during the COVID-19 pandemic: Evidence from Bangladesh	10 journal articles and 45 newspaper reports	Systematic review	Not specified	The coronavirus outbreak severely impacted mental health.
A survey of psychological distress among Bangladeshi people during the COVID-19 pandemic	503 respondents	cross-sectional survey	Not specified	44.3 percent of the respondents reported mild-moderate distress and 9.5 percent reported severe distress.
Prevalence and risk factors of COVID-19 suicidal behavior in Bangladeshi population: are healthcare professionals at greater risk?	3,388 respondents	cross-sectional study	Not specified	Suicidal behaviors were reported by 6.1% of participants.
Suicide and Suicidal Behaviors in the Context of COVID-19 Pandemic in Bangladesh: A Systematic Review	9 journal articles	systematic review	Not specified	Four of the studies assessing the prevalence of suicide behaviours and risk factors, while the remaining five were retrospective.
The COVID-19 pandemic and serious psychological consequences in Bangladesh: A population-based nationwide study	10,067 respondents	Online cross-sectional survey	Not specified	COVID-19 was associated with 33% depression and 5% suicidal ideation.
Mental Disorders of Bangladeshi Students During the COVID-19 Pandemic: A Systematic Review	7 articles	A systematic review	Not specified	The prevalence rates of mild to severe symptoms of depression, anxiety, and stress ranged from 46.92% to 82.42%, 26.62% to 96.822%, and 28.52% to 70.12%.

Social and electronic media exposure and generalized anxiety disorder among people during COVID-19 outbreak in Bangladesh: A preliminary observation	880 participants	Online survey	Facebook	About half of those surveyed reported an increase in anxiety (49.1 percent).
Psychological and nutritional effects on a COVID-19-quarantined population in Bangladesh	5792 individuals	Online survey	Facebook, and LinkedIn	Depression was found in 24% of respondents and was linked to dietary changes (misconception).
The impact of the COVID-19 pandemic on the mental health of the adult population in Bangladesh: a nationwide cross-sectional study	1,427 respondents	Online survey	Not specified	Anxiety and depressive symptoms were found in 33.7% and 57.9% of people.
Depression and anxiety among university students during the COVID-19 pandemic in Bangladesh: A web-based cross-sectional survey	476 university students	Cross-sectional web-based survey	Facebook	Students were depressed and anxious.
COVID-19: psychological effects on a COVID-19 quarantined population in Bangladesh	5792 respondents	Online survey	Instagram, Facebook and LinkedIn	Male institutional quarantined had the most PTSD symptoms.
Impact of the COVID-19 pandemic on psychosocial health and well-being in South-Asian (World Psychiatric Association zone 16) countries: A systematic and advocacy review from the Indian Psychiatric Society	Thirteen studies	A systematic review	Not specified	Non-psychotic depression, preanxiety, somatic disorders, drinking disorders and insomnia have increased.

Table 4 Feature of mental health related papers

Our study found that mental health is the most critical area of research among our selected papers. Table 4 demonstrated that most studies used the survey method, while few conducted systematic reviews. In terms of the respondents, the range fluctuates from around 500 to 10,000. For research purposes, different social media platforms such as Facebook, Twitter, messenger, LinkedIn, etc. have been used. The study found that some researchers used social media to collect survey data while others analyzed social media posts or trends. Table 4 shows that the studies focused on depression, the psychological impact of COVID-19, anxiety, suicidal tendency, etc.

Headline	Data	Method	Types of social media	Finding
Infodemic surrounding COVID-19: Can LIS students recognize and categorize "problematic information" types on social media?	An online survey was conducted among students.	Quantitative data analysis	Not specified	The findings demonstrated that students' awareness of infodemic and related terms, as well as COVID-19 related harmful social media posts, was lacking.
Prevalence and source analysis of COVID-19 misinformation in 138 countries	This study looked at 9657 items of misinformation from 138 nations.	Quantitative data analysis	All social media platforms	The statistics suggest that India (15.94%) has the most disinformation. Social media (84.94%) produces the most misinformation. Among all social media platforms, Facebook creates 66.77% of misinformation.

COVID-19 vaccine rumors and conspiracy theories: The need for cognitive inoculation against misinformation to improve vaccine adherence	Sources included social media, television and newspaper websites.	Quantitative data analysis	Facebook, YouTube, Twitter	The investigation found 637 COVID-19 vaccines, 9 per cent of which were conspiracy ideas from 52 countries. Sixty-six percent of the 578 rumors were about vaccine development, availability and access, while eight percent were about vaccine safety, efficacy and acceptance.
Social media and COVID-19 misinformation: how ignorant Facebook users are?	The study based on 11,716 comments from 876 Facebook.	Quantitative data analysis	Facebook	Most users trust disinformation (60.88%) and few can deny (16.15%) or doubt (13.30%).
Misinformation sharing and social media fatigue during COVID-19: An affordance and cognitive load perspective	433 Bangladeshi respondents	Analysis based on structural equation modelling and neural network techniques.	Not specified	People motivated by self-promotion and entertainment are more likely to broadcast dubious information.

Table 5: Features of misinformation related papers

Misinformation is another critical area of research in our selected literature. Social media misinformation-related studies mainly adopt quantitative data analysis methods. Some studies followed survey while few studies examined Facebook posts and comments. The result of the studies revealed that social media had been used as a prime source of misinformation.

3.7. Features of Physical Health-Related Papers

Headline	Data	Method	Types of social media	Finding
Evaluation of sleep quality, psychological states, and subsequent self-medication practice among the Bangladeshi population during COVID-19 pandemic	2941 respondents	Survey	Facebook, WhatsApp, Viber, IMO etc.	10% to 29.5% had severe sleep problems, and some had severe anxiety and depression.
The positive impact of social media on health behavior towards the COVID-19 pandemic in Bangladesh: A web-based cross-sectional study	1808 respondents	Pearson's correlation analyses	Facebook, YouTube	Most of the users were students (63 percent, 1131 of 1808). The most popular sources were social media (53%) and television (44%) (959/1808).

Citizens' Initiatives for Crisis Management and the Use of Social Media: An Analysis of COVID-19 Crisis in Bangladesh	Various Facebook groups.	Netnography	Facebook	People are using social media to address the crisis.
COVID-19-Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis	COVID-19 Information Retrieval Reports online	Descriptive analysis of the quantitative data	Facebook, Twitter	2,311 rumour, stigma and conspiracy theories report in 25 languages from 87 countries have been identified.
Creative social media use for COVID-19 prevention in Bangladesh: a structural equation modeling approach	265 Bangladeshi people	Online survey	WhatsApp, Facebook, YouTube, Imo, We Chat, Twitter, LinkedIn, and Instagram	Creative social media use enhances internet knowledge of COVID-19 precautions.
Community people preparedness and response on prevention and control of COVID-19 best practice in bangladesh	300 patients and their attendants were interviewed.	Survey	Not specified	
Prevalence and Associated Factors of Problematic Smartphone Use During the COVID-19 Pandemic: A Bangladeshi Study	601 students	A cross-sectional survey	Facebook, WhatsApp, etc.	Around 86.9% of students were problematic smartphone users.

Table 6: Features of physical health-related papers

Physical health has also become an important research area, apart from mental health. The survey was the most followed method of this area. Besides the survey, some studies reviewed newspaper reports and even interviewed COVID patients.

3.8. Feature of "Other" Papers

Headline	Data	Method	Types of social media	Finding
Public libraries' responses to a global pandemic: Bangladesh perspectives	interviews with eight librarians.	The study used a combination of quantitative and qualitative approaches. (Mixed method)	Not specified	Most of the libraries were unprepared for a crisis.

Knowledge, Attitude, Practice, and Fear of COVID-19: an Online-Based Cross-cultural Study	11296 participants.	Online survey	Facebook, Messenger, WhatsApp, and Skype	Fear and knowledge were not correlated.
Knowledge, attitudes, and preventive practices toward the COVID-19 pandemic: an online survey among Bangladeshi residents	1765 Bangladeshi adults	Cross-sectional survey	Not specified	In terms of infection prevention practices, 96.6% wore masks outside the home and 98.7% washed their hands with soap on their return.
Knowledge, attitudes, and practices related to the COVID-19 pandemic among Bangladeshi youth: a web-based cross-sectional analysis	707 survey participants	A cross-sectional survey		Participants collected information on COVID-19 largely through social media (70.4%).
Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: An online-based cross-sectional study	Of the 2017 survey participants,	Online survey	Many	48.3 percent of participants possessed more accurate knowledge.
Responsible Factors of Panic Buying: An Observation from Online Media Reports	Reports related to panic buying.	The study examined media stories on panic buying.	Not specified	In 93 nations, panic buying was observed. Around 75% of responses said that a sense of scarcity was a significant influence.
Genomics, social media and mobile phone data enable mapping of SARS-CoV-2 lineages to inform	genomics, Facebook "Data for Good", and	Data analysis	Facebook	At the beginning of mid-2020, most (85%) of the sequenced isolates were Pango B.1.1.25 (58%) or B.1.1 (19%).

Table 7: Feature of "other" papers

Table 7 shows the papers that are not related to significant areas. In these papers, different areas were examined. Issues related to the environment and the use of libraries came up as a research topic. The survey method was the most used.

4. Discussion and Conclusion

The study found that the two key research areas among the selected articles are mental health and misinformation. In contrast, the policy-based paper came as the least researched area. The finding implies that Bangladeshi people suffered from mental disorders like anxiety, fear, trauma, and depression due to COVID-19. For evidence, the research found that around 15% of Bangladeshi students experienced severe depression (Asaduzzaman Khan, Uddin, & Islam, 2019). Among the papers, we found only two documents related to policy. One article describes health policy, while the other paper discusses education policy.

The paper found that several research approaches have been used in these papers. Apart from research methodologies of social science, the methods of natural science are also used. A few articles used hybrid methodology too. The survey came as the most used methodology. It signifies that the opportunity for face-to-face data collection was limited due to the lockdown situation. Thus, the online survey method was found most common method among researchers. Besides, the content analysis method was also used a significant amount of research. The content of social media, newspaper reports, and videos has been analyzed quantitatively and qualitatively.

The paper discovered that social media is used in a variety of ways. Firstly, survey questionnaires were distributed through social media sites among respondents. Secondly, Covid-related posts from different social media platforms were retrieved and analyzed in much research. Accordingly, the authors of Mamun (2020, 2021, 2021a, 2021b), Islam (2020, 2021, 2021B), Sikdar (2020, 2021) came out as the top authors in this field. Mamun published six papers and received the highest number of citations among the authors. Islam, Sikdar published five and four articles, respectively.

When comparing our results to older studies, it was pointed out that most of the previous review papers discussed mainly focused on mental health. For example, Mamun (2021b) reviewed nine papers related to suicide and suicidal behavior in the context of Bangladesh. In contrast, our article is not limited to only mental health-related papers; instead, we investigate all Covid related articles on Bangladesh that used social media at any point. So, the range of research is broader in our study. Similarly, while Mamun (2021) reviewed seven articles on mental health issues during the pandemic, we analyzed 50 articles, including papers on mental health. Thus, our finding is based on more important data. Banerjee (2020) reviewed 13 papers related to COVID-19 from south Asian countries at the international level. Although the paper includes social media, it is only limited to mental health. But we took documents from almost all areas. One of the strengths of our study is that it covered the highest number of studies and analyzed data by software and manually.

The main limitation of our study is that we cannot include papers from local Bangladeshi journals which are not indexed under the web of science database. We first analyzed our data using the bibliometric package; it only supports papers from databases like the Web of Science, Scopus, or Publon. So, it was impossible to include articles related to our area but published in the Bangla language or those journals not listed in the databases mentioned before.

Our results suggest an exciting new avenue of study focused on social media and COVID-19. We research the context of Bangladesh; similar research could be done in other countries in South Asia or beyond. Moreover, as we could not include articles from local journals of Bangladesh, one could initiate a new investigation about these articles and can imitate our methodology and framework. Similarly, there could be more research to explore the impact and role of social media in other fields in the context of Bangladesh. Additionally, as our study found misinformation is one of the key research areas, and there were many publications on this issue, more research could be conducted. So far.

We found similar studies where the role of social media was investigated in the fields of tourism and public health. Asaduzzaman Khan et al., 2019; T. Rasul & Hoque, 2020. Our study will contribute to understanding the dynamics of research related to COVID-19 and social media.

Bibliography

Abedin, M., Islam, M. A., Rahman, F. N., Reza, H. M., Hossain, M. Z., Hossain, M. A., ... Hossain, A. (2021). Willingness to vaccinate against COVID-19 among Bangladeshi adults: Understanding the strategies to optimize vaccination coverage. *PLOS ONE*, 16(4). <https://doi.org/10.1371/journal.pone.0250495>

- Ahmed, M. S., Aurpa, T. T., & Anwar, M. M. (2021). Detecting sentiment dynamics and clusters of Twitter users for trending topics in COVID-19 pandemic. *PLOS ONE*, 16(8). <https://doi.org/10.1371/journal.pone.0253300>
- Al-Zaman, M. S. (2021a). Prevalence and source analysis of COVID-19 misinformation in 138 countries. *IFLA JOURNAL-INTERNATIONAL FEDERATION OF LIBRARY ASSOCIATIONS*. <https://doi.org/10.1177/03400352211041135>
- Al-Zaman, M. S. (2021b). Social media and COVID-19 misinformation: how ignorant Facebook users are? *HELIYON*, 7(5). <https://doi.org/10.1016/j.heliyon.2021.e07144>
- Al Mamun, F., Hosen, I., Misti, J. M., Kaggwa, M. M., & Mamun, M. A. (2021). Mental Disorders of Bangladeshi Students During the COVID-19 Pandemic: A Systematic Review. *PSYCHOLOGY RESEARCH AND BEHAVIOR MANAGEMENT*, 14, 645–654. <https://doi.org/10.2147/PRBM.S315961>
- Alam, M. K., Bin Ali, F., Banik, R., Yasmin, S., & Salma, N. (n.d.). Assessing the mental health condition of home-confined university level students of Bangladesh due to the COVID-19 pandemic. *JOURNAL OF PUBLIC HEALTH-HEIDELBERG*. <https://doi.org/10.1007/s10389-021-01542-w>
- Ali, M., Uddin, Z., Banik, P. C., Hegazy, F. A., Zaman, S., Ambia, A. S. M., ... Ahsan, G. U. (2021). Knowledge, Attitude, Practice, and Fear of COVID-19: an Online-Based Cross-cultural Study. *INTERNATIONAL JOURNAL OF MENTAL HEALTH AND ADDICTION*. <https://doi.org/10.1007/s11469-021-00638-4>
- Almotawa, T., & Aljabri, D. (2020). Role of Social Media in Creating Awareness during COVID-19 Pandemic.
- Arafat, S. M. Y., Kar, S. K., Menon, V., Alradie-Mohamed, A., Mukherjee, S., Kaliamoorthy, C., & Kabir, R. (2020). Responsible Factors of Panic Buying: An Observation From Online Media Reports. *FRONTIERS IN PUBLIC HEALTH*, 8. <https://doi.org/10.3389/fpubh.2020.603894>
- Archambault, É., Campbell, D., Gingras, Y., & Larivière, V. (2009). Comparing bibliometric statistics obtained from the Web of Science and Scopus. *Journal of the American Society for Information Science and Technology*, 60(7), 1320–1326.
- Azlan, A. A., Hamzah, M. R., Sern, T. J., Ayub, S. H., & Mohamad, E. (2020). Public knowledge, attitudes and practices towards COVID-19: A cross-sectional study in Malaysia. *Plos One*, 15(5), e0233668.
- Banerjee, D., Vaishnav, M., Sathyanarayana Rao, T. S., Raju, M. S. V. K., Dalal, P. K., Javed, A., ... Jagiwala, M. P. (2020). Impact of the COVID-19 pandemic on psychosocial health and well-being in South-Asian (World Psychiatric Association zone 16) countries: A systematic and advocacy review from the Indian Psychiatric Society. *INDIAN JOURNAL OF PSYCHIATRY*, 62(9, 3), 343–353. <https://doi.org/10.4103/psychiatry.IndianJPsychiatry\1002\20>
- Bangladesh charts 9m new social media users. (2021, April 26). Dhaka Tribune. Retrieved from <https://www.dhakatribune.com/>
- Baniamin, H. M. (2021). Citizens' Initiatives for Crisis Management and the Use of Social Media: An Analysis of COVID-19 Crisis in Bangladesh. *PUBLIC ORGANIZATION REVIEW*. <https://doi.org/10.1007/s11115-021-00534-4>

- Basher, S. A., & Haque, A. K. E. (2021). Public policy lessons from the COVID-19 outbreak: How to deal with it in the post-pandemic world? *JOURNAL OF SOCIAL AND ECONOMIC DEVELOPMENT*, 23(SUPPL 2, 2, SI), 234–247. <https://doi.org/10.1007/s40847-020-00118-w>
- Begum, D., Roknuzzaman, M., & Shobhane, M. E. (2021). Public libraries' responses to a global pandemic: Bangladesh perspectives. *IFLA JOURNAL-INTERNATIONAL FEDERATION OF LIBRARY ASSOCIATIONS*. <https://doi.org/10.1177/03400352211041138>
- Booth, A., Sutton, A., & Papaioannou, D. (2016). Systematic approaches to a successful literature review.
- Casado-Aranda, L.-A., Sanchez-Fernandez, J., & Viedma-del-Jesus I, M. (2021). Analysis of the scientific production of the effect of COVID-19 on the environment: A bibliometric study. *ENVIRONMENTAL RESEARCH*, 193. <https://doi.org/10.1016/j.envres.2020.110416>
- Chao, M., Xue, D., Liu, T., Yang, H., & Hall, B. J. (2020). Media use and acute psychological outcomes during COVID-19 outbreak in China. *Journal of Anxiety Disorders*, 74, 102248.
- Chen, J., & Wang, Y. (2021). Social Media Use for Health Purposes: Systematic Review. *Journal of Medical Internet Research*, 23(5), e17917.
- Cook, D. J., Mulrow, C. D., & Haynes, R. B. (1997). Systematic reviews: synthesis of best evidence for clinical decisions. *Annals of Internal Medicine*, 126(5), 376–380.
- Cowley, L. A., Afrad, M. H., Rahman, S. I. A., Al Mamun, M. M., Chin, T., Mahmud, A., ... Shirin, T. (2021). Genomics, social media and mobile phone data enable mapping of SARS-CoV-2 lineages to inform health policy in Bangladesh. *NATURE MICROBIOLOGY*. <https://doi.org/10.1038/s41564-021-00955-3>
- Das, D. B. C., Bhuiyan, S. I., Ullah, A. S. M. W., Alam, M. Z., Mostofa, G. G., Hasan, K. Z., ... Alauddin, M. (2021). COMMUNITY PEOPLE PREPAREDNESS AND RESPONSE ON PREVENTION AND CONTROL OF COVID-19 BEST PRACTICE IN BANGLADESH. *ASIA PACIFIC JOURNAL OF HEALTH MANAGEMENT*, 15(4), 98–105. <https://doi.org/10.24083/apjhm.v15i4.499>
- Dhanani, L. Y., & Franz, B. (2020). Unexpected public health consequences of the COVID-19 pandemic: a national survey examining anti-Asian attitudes in the USA. *International Journal of Public Health*, 65(6), 747–754.
- Ferdous, M. Z., Islam, M. S., Sikdar, M. T., Mosaddek, A. S. M., Zegarra-Valdivia, J. A., & Gozal, D. (2020). Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: An online-based cross-sectional study. *PLOS ONE*, 15(10). <https://doi.org/10.1371/journal.pone.0239254>
- Fu, H., Hereward, M., MacFeely, S., Me, A., & Wilmoth, J. (2020). How COVID-19 is changing the world: A statistical perspective from the Committee for the Coordination of Statistical activities. *Statistical Journal of the IAOS*, (Preprint), 1–10.
- Grant, M. J., & Booth, A. (2009). A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal*, 26(2), 91–108.
- Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., ... Everall, I. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet Psychiatry*, 7(6), 547–560.

- Hosen, I., al Mamun, F., Sikdar, M. T., Abbasi, A. Z., Zou, L., Guo, T., & Mamun, M. A. (2021). Prevalence and Associated Factors of Problematic Smartphone Use During the COVID-19 Pandemic: A Bangladeshi Study. *RISK MANAGEMENT AND HEALTHCARE POLICY*, 14, 3797–3805. <https://doi.org/10.2147/RMHP.S325126>
- Hossain, M. I., Mehedi, N., Ahmad, I., Ali, I., & Azman, A. (2021). Psychosocial stress and trauma during the COVID-19 pandemic: Evidence from Bangladesh. *ASIAN SOCIAL WORK AND POLICY REVIEW*, 15(2), 145–159. <https://doi.org/10.1111/aswp.12227>
- Hossain, M. T., Ahammed, B., Chanda, S. K., Jahan, N., Ela, M. Z., & Islam, M. N. (2020). Social and electronic media exposure and generalized anxiety disorder among people during COVID-19 outbreak in Bangladesh: A preliminary observation. *PLOS ONE*, 15(9). <https://doi.org/10.1371/journal.pone.0238974>
- Islam, A. K. M. N., Laato, S., Talukder, S., & Sutinen, E. (2020). Misinformation sharing and social media fatigue during COVID-19: An affordance and cognitive load perspective. *TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE*, 159. <https://doi.org/10.1016/j.techfore.2020.120201>
- Islam, M. M., Islam, M. M., Ahmed, F., & Rumana, A. S. (2021). Creative social media use for COVID-19 prevention in Bangladesh: a structural equation modeling approach. *SOCIAL NETWORK ANALYSIS AND MINING*, 11(1). <https://doi.org/10.1007/s13278-021-00744-0>
- Islam, M. S., Kamal, A.-H. M., Kabir, A., Southern, D. L., Khan, S. H., Hasan, S. M. M., ... Seale, H. (2021). COVID-19 vaccine rumors and conspiracy theories: The need for cognitive inoculation against misinformation to improve vaccine adherence. *PLOS ONE*, 16(5). <https://doi.org/10.1371/journal.pone.0251605>
- Islam, M. S., Sarkar, T., Khan, S. H., Kamal, A.-H. M., Hasan, S. M. M., Kabir, A., ... Seale, H. (2020). COVID-19-Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis. *AMERICAN JOURNAL OF TROPICAL MEDICINE AND HYGIENE*, 103(4), 1621–1629. <https://doi.org/10.4269/ajtmh.20-0812>
- Islam, M. S., Sujan, M. S. H., Tasnim, R., Mohona, R. A., Ferdous, M. Z., Kamruzzaman, S., ... Pontes, H. M. (2021). Problematic Smartphone and Social Media Use Among Bangladeshi College and University Students Amid COVID-19: The Role of Psychological Well-Being and Pandemic Related Factors. *FRONTIERS IN PSYCHIATRY*, 12. <https://doi.org/10.3389/fpsy.2021.647386>
- Khan, Asaduzzaman, Uddin, R., & Islam, S. M. S. (2019). Social media use is associated with sleep duration and disturbance among adolescents in Bangladesh. *Health Policy and Technology*, 8(3), 313–315.
- Khan, Ashraf, Hassan, M. K., Paltrinieri, A., Dreassi, A., & Bahoo, S. (2020). A bibliometric review of takaful literature. *International Review of Economics & Finance*, 69, 389–405.
- Khan, Ayatullah, Kabir, K. H., Hasan, K., Acharyya, R. N., Islam, M., Sultana, R., ... Al Imran, S. (2021). Mental health impacts of COVID-19 outbreak and associated drivers among university students in Bangladesh. *MINERVA PSYCHIATRY*, 62(2), 55–64. <https://doi.org/10.23736/S2724-6612.20.02108-1>
- Khan, K. S., Ter Riet, G., Glanville, J., Sowden, A. J., & Kleijnen, J. (2001). Undertaking systematic reviews of research on effectiveness: CRD's guidance for carrying out or commissioning reviews. *NHS Centre for Reviews and Dissemination*.

- Kundu, S., Al Banna, M. H., Sayeed, A., Begum, M. R., Brazendale, K., Hasan, M. T., ... Khan, M. S. I. (2021). Knowledge, attitudes, and preventive practices toward the COVID-19 pandemic: an online survey among Bangladeshi residents. *JOURNAL OF PUBLIC HEALTH-HEIDELBERG*. <https://doi.org/10.1007/s10389-021-01636-5>
- Lazzini, A., Lazzini, S., Balluchi, F., & Mazza, M. (2021). Emotions, moods and hyperreality: social media and the stock market during the first phase of COVID-19 pandemic. *Accounting, Auditing & Accountability Journal*.
- Liu, P. L. (2020). COVID-19 information seeking on digital media and preventive behaviors: the mediation role of worry. *Cyberpsychology, Behavior, and Social Networking*, 23(10), 677– 682.
- Malik, F.-T.-N., Ishraquzzaman, M., Kalimuddin, M., Choudhury, S., Ahmed, N., Badiuzzaman, M., ... Al Mamun, M. A. (2020). Clinical Presentation, Management and In-Hospital Outcome of Healthcare Personnel With COVID-19 Disease. *CUREUS*, 12(8). <https://doi.org/10.7759/cureus.10004>
- Mamun, M. A. (2021a). Exploring factors in fear of COVID-19 and its GIS-based nationwide distribution: the case of Bangladesh. *BJPSYCH OPEN*, 7(5). <https://doi.org/10.1192/bjo.2021.984>
- Mamun, M. A. (2021b). Suicide and Suicidal Behaviors in the Context of COVID-19 Pandemic in Bangladesh: A Systematic Review. *PSYCHOLOGY RESEARCH AND BEHAVIOR MANAGEMENT*, 14, 695–704. <https://doi.org/10.2147/PRBM.S315760>
- Mamun, M. A., Akter, T., Zohra, F., Sakib, N., Bhuiyan, A. K. M. I., Banik, P. C., & Muhit, M. (2020). Prevalence and risk factors of COVID-19 suicidal behavior in Bangladeshi population: are healthcare professionals at greater risk? *HELIYON*, 6(10). <https://doi.org/10.1016/j.heliyon.2020.e05259>
- Mamun, M. A., Sakib, N., Gozal, D., Bhuiyan, A. I., Hossain, S., Bodrud-Doza, ... Pakpour, A. H. (2021). The COVID-19 pandemic and serious psychological consequences in Bangladesh: A population-based nationwide study. *JOURNAL OF AFFECTIVE DISORDERS*, 279, 462–472. <https://doi.org/10.1016/j.jad.2020.10.036>
- Marzo, R. R., Singh, A., & Mukti, R. F. (2021). A survey of psychological distress among Bangladeshi people during the COVID-19 pandemic. *CLINICAL EPIDEMIOLOGY AND GLOBAL HEALTH*, 10. <https://doi.org/10.1016/j.cegh.2020.100693>
- Mathrani, A., Sarvesh, T., & Umer, R. (2021). Digital divide framework: online learning in developing countries during the COVID-19 lockdown. *GLOBALIZATION SOCIETIES AND EDUCATION*. <https://doi.org/10.1080/14767724.2021.1981253>
- Moorhead, S. A., Hazlett, D. E., Harrison, L., Carroll, J. K., Irwin, A., & Hoving, C. (2013). A new dimension of health care: systematic review of the uses, benefits, and limitations of social media for health communication. *Journal of medical Internet research*, 15(4), e1933.
- Merigó, J. M., Mas-Tur, A., Roig-Tierno, N., & Ribeiro-Soriano, D. (2015). A bibliometric overview of the Journal of Business Research between 1973 and 2014. *Journal of Business Research*, 68(12), 2645–2653.
- Musa, M. N., & Husna, M. (2021). Will the mRNA Vaccines Interfere with One's DNA? *BANGLADESH JOURNAL OF MEDICAL SCIENCE*, 20(2), 463–464.

<https://doi.org/10.3329/bjms.v20i2.51567>

- Ozdemir, M. (2020). The Cultural Change of the Perception of Elderliness During Coronavirus Outbreak. *MILLI FOLKLOR*, (127), 46–58.
- Pasadeos, Y., & Renfro, B. (1992). A bibliometric analysis of public relations research. *Journal of Public Relations Research*, 4(3), 167–187.
- Qiu, R. T. R., Park, J., Li, S., & Song, H. (2020). Social costs of tourism during the COVID-19 pandemic. *Annals of Tourism Research*, 84, 102994.
- Rahman, M. A., Hoque, N., Alif, S. M., Salehin, M., Islam, S. M. S., Banik, B., ... Cross, W. (2020). Factors associated with psychological distress, fear and coping strategies during the COVID-19 pandemic in Australia. *GLOBALIZATION AND HEALTH*, 16(1). <https://doi.org/10.1186/s12992-020-00624-w>
- Rahman, M. S., Alam, M. A., Salekin, S., Belal, M. A. H., & Rahman, M. S. (2021). The COVID-19 pandemic: A threat to forest and wildlife conservation in Bangladesh? *TREES FORESTS AND PEOPLE*, 5. <https://doi.org/10.1016/j.tfp.2021.100119>
- Rashid, A. A., Idris, M. I., Zulkiflee, N. S., Yahaya, A. Y., & Ramesh, P. (2021). The Correlation of Social Media Activity and Engagement of a Health NGO with the Outcome of Fundraising Efforts During the COVID-19 Pandemic. *BANGLADESH JOURNAL OF MEDICAL SCIENCE*, 20(SI), S148–S154. <https://doi.org/10.3329/bjms.v20i5.55419>
- Rasul, G., Nepal, A. K., Hussain, A., Maharjan, A., Joshi, S., Lama, A., ... Sharma, E. (2021). Socio-Economic Implications of COVID-19 Pandemic in South Asia: Emerging Risks and Growing Challenges. *FRONTIERS IN SOCIOLOGY*, 6. <https://doi.org/10.3389/fsoc.2021.629693>
- Rasul, T., & Hoque, M. R. (2020). A review of social media research in the tourism and hospitality Industry through the lens of social structure. *Tourism Recreation Research*, 45(3), 425–427.
- Ripon, R. K., Mim, S. S., Puente, A. E., Hossain, S., Babor, M. M. H., Sohan, S. A., & Islam, N. (2020). COVID-19: psychological effects on a COVID-19 quarantined population in Bangladesh. *HELIYON*, 6(11). <https://doi.org/10.1016/j.heliyon.2020.e05481>
- Sharif, N., Opu, R. R., Alzahrani, K. J., Ahmed, S. N., Islam, S., Mim, S. S., ... Dey, S. K. (2021). The positive impact of social media on health behavior towards the COVID-19 pandemic in Bangladesh: A web-based cross-sectional study. *DIABETES & METABOLIC SYNDROME-CLINICAL RESEARCH & REVIEWS*, 15(5). <https://doi.org/10.1016/j.dsx.2021.102206>
- Shek, D. T. L. (2021). COVID-19 and quality of life: Twelve reflections. *Applied Research in Quality of Life*, 16(1), 1–11.
- Sikdar, K. M. Y. K., Anjum, J., Bahar, N. B., Muni, M., Hossain, S. M. R., Munia, A. T., & Al-Hossain, A. S. M. M. (2021). Evaluation of sleep quality, psychological states and subsequent self-medication practice among the Bangladeshi population during COVID-19 pandemic. *CLINICAL EPIDEMIOLOGY AND GLOBAL HEALTH*, 12. <https://doi.org/10.1016/j.cegh.2021.100836>
- Tsao, Shu-Feng; Chen, Helen; Tisseverasinghe, Therese; Yang, Yang; Li, Lianghua; Butt, Zahid A (2021). What social media told us in the time of COVID-19: a scoping review. *The Lancet Digital Health*, (), S2589750020303150-. doi:10.1016/S2589-7500(20)30315-0

Wright R, Brand R, Dunn W, Spindler K. (2007). How to write a systematic review. *Clin Orthop Relat Res.* 455:23–29. <http://www.ncbi.nlm.nih.gov/pubmed/17279036>

Yesmin, S., & Ahmed, S. M. Z. (2021). Infodemic surrounding COVID-19: Can LIS students recognize and categorize “problematic information” types on social media? *DIGITAL LIBRARY PERSPECTIVES*. <https://doi.org/10.1108/DLP-03-2021-0020>