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# RESEARCH ARTICLE

## A BIBLIOMETRIC ANALYSIS OF RESEARCH TRENDS IN THE IMPACT OF COVID-19 ON HUMAN RESOURCE MANAGEMENT

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**ABSTRACT**

**Purpose:** The outbreak of COVID-19 severely impacted economic activities across the globe. Since then, business have been struggling to adjust to the changing circumstances and meet the challenges due to changes in the workplace. This paper presents an overview of new work arrangements, such as working from home or with a virtual team, and new challenges for employees, such as social isolation, stress, and unemployment. **Methods:** 646 documents published between 2020 and 2023 were analyzed for this paper. "COVID-19" and "human resource management" were the keywords used to retrieve the data from the SCOPUS database. Bibliometric analysis has been done to know the patterns in research in terms of the most prominent disciplines, publications, journals, authors, institutions, and countries. To visualize the results, RStudio and VOSviewer have been used. **Results:** The study of publication patterns reveals that the United States was leading in the number of COVID-19-related publications. J. Wang was the top author, and the BMJ was the top source. The National Institute of Environmental Health was the leading organization, and the co-occurrence of keywords analysis identified "COVID-19," "human resource management," "pandemic," and "crisis management" as the most frequent words. **Conclusion:** The United States of America and China have been coming with maximum publications in COVID-19 research. COVID-19-related studies were more frequently published in BMJ.

## INTRODUCTION

As a result of a cluster of pneumonia cases epidemiologically connected to a wet market in Wuhan, China, in late December 2019, a novel coronavirus was discovered (Zhu, N. *et al.* 2020). It was associated with severe acute respiratory syndrome and was designated as COVID-19 (SARS-CoV-2). Since then, COVID-19 infection cases have increased rapidly and resulted in a pandemic situation causing governments all around the world to take measures to cure infected patients and contain its spread. The World Health Organization (WHO) declared COVID-19 a pandemic as the number of verified cases grew, with over 8,000 expected fatalities in more than 160 nations. Italy was the first nation in Europe where the impact was significant following the initial description in Wuhan, China (Pellino, G., & Spinelli, A. 2020). To control the disease in its early stages, the Indian government took several preventative measures. Weekend lockdowns were initially employed to contain the outbreak of the virus.

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On March 24, 2020, the first total nationwide lockdown was enacted, and it was initially in force for 24 days. Both domestic and international flights were cancelled. To prevent the spread of COVID-19, it was mandatory to wear a face mask. People were requested to keep a safe social distance and sanitizers were put in public spaces.

**Measures Taken by the Indian Government to Prevent COVID-19:** All over the world, the COVID-19 virus wreaked havoc on people's lives. There were a large number of fatalities. The Indian government took stringent measures to identify the infected cases, take steps to provide them with medical treatment, and at the same time, contain the spread of the virus. A few significant steps taken by the government to manage the situation are as follows:

**Preventive Measures:** Whenever there was a spur in cases of COVID-19, curfews were imposed curfews to contain the spread. Sometimes, they were only night curfews (from 10 P. M. to 5 A. M.), sometimes for weekends, while at other times, curfews were extended for days. They were imposed as needed. Those working in vital services were allowed free movement even during curfew hours. During the lockdown, e-passes were issued on case to case basis for inter-state or inter-district travel to people who had to travel due to unavoidable reasons.

Several state governments made it mandatory for people to carry a negative RT-PCR test while entering their territories.

Such regulations persuaded individuals to stay at home to control the spread of the virus.

**Vaccination Practices**: In India, by 2022, 83% of those who were eligible had taken all three jabs of vaccination, with 93% of them having received at least one jab. Vaccination campaigns were launched to shield people against the COVID-19 virus's potentially fatal hazards. Being vaccinated is a way to control fatalities due to the infection. The immunization status in India as of September 3, 2022, is shown in Table 1.

**Table 1. Total vaccination administered across the country as on September 3, 2022**

| Dose | Vaccination (Percentage of the eligible population vaccinated) |
|---|---|
| Partially Vaccinated | 1,023,156,959(94.37) |
| Fully Vaccinated | 943,134,383(86.99) |
| Precautionary (Booster) Dose | 163,815,894 |

Source: Source: https://www.mygov.in/COVID-19

**Enhancing the Supply of Medical Oxygen:** Critically infected COVID-19 patients faced s difficulties and needed medical oxygen. With a spur in the number of infected cases, there was an acute shortage of oxygen cylinders in the country. Central Government established an oxygen quota for all states to meet the medical oxygen crisis. Additionally, it advised Indian steel producers to increase oxygen generation at their facilities. By the middle of April, the state-owned Steel Authority of India provided around 35,000 ton nes of oxygen. Private companies, including Tata Steel, Reliance Industries, JSW Steel, and Nippon, made commitments to increasing the supply of medical oxygen.

**Fiscal Actions:** The Pradhan Mantri Garib Kalyan insurance program was introduced by the Government of India to protect the lives of front-line public health workers. The relatives of individuals who died while doing COVID-19-related duties were to be benefitted from this policy. Additionally, the government introduced the Emergency Credit Line Guarantee Scheme to assist enterprises further. This program enables the airline, travel, tourist, and hotel industries to continue operating despite the current economic downturn. To assist enterprises, the government provided financial aid also.

**Task Force:** The Indian government appointed eleven empowered committees on March 29, 2020, to address various COVID-19 management-related issues nationwide. Being prepared for medical emergencies, hospital accessibility, isolation and quarantine facilities, disease surveillance, and testing, ensuring access to necessary medical equipment, supporting human resource and capacity building, supply chain and logistics management, working with the private sector, economic and welfare measures, information, communications, and public awareness, technology and data management, and managing public information were all priorities for these teams.

**Special Plans for States and Union Territories:** The management of State Governments and Union Territories received suggestions on developing necessary strategies, plans, and procedures from the Central Government. Travel, behavioural and mental health, surveillance, laboratory support, hospital infrastructure, clinical management, rational use of Personal Protective Equipment (PPE), and motivational coaching for medical staff were the major issues covered by containment plans and recommendations.

**Travel Advisories:** Travel advisories were routinely updated to reflect changes in the situation to stop the spread of COVID-19. International visitors entering India had to go through screening tests (RTPCR). International travelers were required to remain quarantined for at least 14 days.

**Workplace Changes Due to COVID-19**

**Employee Well-Being and Health:** The complete mental, physical, emotional, and financial wellness of employees is referred to as employee well-being. It is impacted by several things, including their interactions with co-workers, their choices, and the resources and tools they have at their disposal. When shifting to remote working to prevent the spread of COVID-19 people had to gain the expertise to work with technology and online working skills.

**Work from Home (WFH) Culture:** Previously, WFH was discretionary depending on employee concerns and issues. During COVID-19, WFH was made mandatory at many places. WFH offers advantages of improved focus on work due to the peaceful and quieter ambiance at home, flexible timing which enables lower absenteeism and higher punctuality, savings in commuting time and many more. However, WFH culture has its limitations. Employees have to be provided with appropriate technological support in the form of equipment and devices which can at times be very expensive. Technical glitches need to be resolved by employees themselves with limited tech support. There is a higher risk of cyber security while WFH. Managers may find it challenging to collaborate the team efforts, establish daily routines and monitor employee performance. Resolving disputes among the team members may also be challenging due to limited communication during WFH. There is a higher possibility of having blurred work-life boundaries. Numerous distractions at home may increase the risk of low work productivity. WFH is a new working culture but it cannot replace work-from-office culture completely.

**Virtual Management and Leadership:** Greatest challenge for the managers was to run the business as usual and minimize disruptions. They had to strike a balance between pushing their teams for performance and comforting their team. They were concerned that social isolation might result in weakening the strength of connections that they developed over the years. Managers had to showcase their charismatic qualities and communication skills to build hope and realism among the employees. Managers had to deal with various issues and additional responsibilities as almost all the employees were mentally and emotionally distracted due to the crisis.

**Large-Scale Laying-Off of Employees:** The COVID-19 pandemic led to massive job losses (Monitor, 2020). Businesses increased layoffs, increased working hours, and decreased compensation (Dey & Loewenstein, 2020). Employees had to face salary cuts. Industries including Hospitality, travel and tourism, cinema, airlines, food services, retail, manufacturing, and business and administrative activities had the highest likelihood of unemployment and underemployment (Bell & Blanch flower, 2020). COVID-19 created economic disruption in several countries by reducing economic activity in several industries, leading to job losses,

and reducing revenue sources (Loewenstein, and Woodside, 2020).

**Loneliness and Social Isolation:** The COVID-19 pandemic incited the use of "social isolation" for patients infected with the COVID-19 virus. It was necessary to curtail the transmission and spread of the virus. Social isolation and quarantine practices were necessary for those exposed to or affected by the virus. People above the age of sixty years were at greater risk of catching COVID-19 infection and developing acute illness (US CDC, 2020). According to the Centre for Evidence-Based Medicine, The Case Fatality Rate (CFR) for patients over the age of sixty years was approximately 4%, for patients over the age of seventy years it was approximately 8%, and for patients over the age of eighty years, it was approximately 15%. Thus, the fatality rate increases with age (Lim, Z. J., (2021).

**Challenges for People Engaged in Essential Services:** Employees working in industries providing critical services, such as medicine, pharmaceuticals, banking, food stores, etc., were more at risk for health problems. They experienced more stress and anxiety. They had to maintain very little social interaction with their loved ones and friends to contain the spread of infection. This social isolation increased their anxiety even more. With the rise in infected cases, the workload of employees engaged in essential services increased (Bell, C., *et al*, 2021).

**Bibliometric Analysis:**

## RESULTS AND DISCUSSION

This section presents the analysis of bibliometric data

**Table 2. Main Information**

| Description | Results |
|---|---|
| MAIN INFORMATION ABOUT DATA | |
| Timespan | 2020:2023 |
| Sources (Journals, Books, etc) | 404 |
| Documents | 646 |
| Annual Growth Rate % | -61.84 |
| Document Average Age | 0.681 |
| Average citations per documents | 5.41 |
| References | 28411 |
| DOCUMENT CONTENTS | |
| Keywords Plus (ID) | 3908 |
| Author's Keywords (DE) | 1923 |
| AUTHORS | |
| Authors | 2373 |
| Authors of single-authored documents | 73 |
| AUTHORS COLLABORATION | |
| Single-authored documents | 85 |
| Co-Authors per Documents | 3.9 |
| International co-authorships % | 24.15 |
| DOCUMENT TYPES | |
| Article | 374 |
| Book | 2 |
| Book chapter | 14 |
| Conference paper | 206 |
| Conference review | 8 |
| Data paper | 1 |
| Editorial | 3 |
| Erratum | 1 |
| Letter | 5 |
| Note | 1 |
| Review | 30 |
| Short survey | 1 |

The above table shows detailed information about the data collected from Scopus database using keywords'COVID-19' and 'Human Resource Management'.

**Table 3. Average Citation perYear**

| Year | No. of documents per year | Mean Total Citation Perdocument | MeanTotal Citation PerYear | Citable Years |
|---|---|---|---|---|
| 2020 | 72 | 16.00 | 8.00 | 2 |
| 2021 | 300 | 6.75 | 6.75 | 1 |
| 2022 | 270 | 1.17 | | 0 |
| 2023 | 4 | 0.25 | -0.25 | -1 |

The above table shows that in 2020, 72 documents were published on the topic. Over two years, on average, they have been cited 16 times which comes to 8 times a year. In 2021, the number of documents increased to 300. This may be due to the spur in COVID-19-infected cases.

**Top Journal Sources**: BMJ Open, Sustainability (Switzerland), Frontiers in Psychology, ASEE Annual Conference and Exposition, Conference Proceedings, Emerald Emerging Markets Case Studies, Proceedings of The European Conference on Knowledge Management, ECKM, ACM International Conference Proceeding Series, E3S Web of Conferences, Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), CEUR Workshop Proceedings having documents 28, 18, 14, 8, 8, 8, 7, 6, 6, 5 respectively these are the top ten relevant sources using SCOPUS. It should be kept in mind that the highest paper production does not guarantee the highest number of citations. Therefore, this study also incorporated an analysis of the most-cited documents for better understanding the sources.

**Table 4. Most Relevant Journal Sources**

| Journal Sources | Number of Documents |
|---|---|
| BMJ Open | 28 |
| Sustainability (Switzerland) | 18 |
| Frontiers in Psychology | 14 |
| ASEE Annual Conference and Exposition, Conference Proceedings | 8 |
| Emerald Emerging Markets Case Studies | 8 |
| Proceedings of The European Conference on Knowledge Management, ECKM | 8 |
| ACM International Conference Proceeding Series | 7 |
| E3S Web of Conferences | 6 |
| Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) | 6 |
| CEUR Workshop Proceedings | 5 |

**Top Authors:** Top authors are Wang J, Wang L, Li L, Ahmad R, Kumar A, Li J, Zhang Y, Ahmed S, Li W having 7, 6, 5, 4, 4, 4, 4, 3, 3 documents respectively

**Table 5. Most Relevant Authors**

| Authors | Documents | Documents Fractionalized |
|---|---|---|
| J Wang | 7 | 2.04 |
| L Wang | 6 | 1.27 |
| L Li | 5 | 0.73 |
| R Ahmad | 4 | 1.50 |
| A Kumar | 4 | 0.97 |
| J Li | 4 | 1.61 |
| Y Zhang | 4 | 0.89 |
| S Ahmed | 3 | 0.56 |
| W Li | 3 | 0.73 |

**Top Affiliation**: National Institute of Environmental Health with 30 documents is the Top Affiliation, Followed by University of Maryland School of Medicine (15 documents), Chiang Mai University (12 documents), The Hong Kong Polytechnic University, Tokyo Medical And Dental University (11 documents), Homi Bhabha National Institute (10 documents), Hospital Italiano De Buenos Aires (10 documents), Universidade Federal Do Maranhao (10 documents), University of Turin 10 Documents, University of Virginia (10 documents).

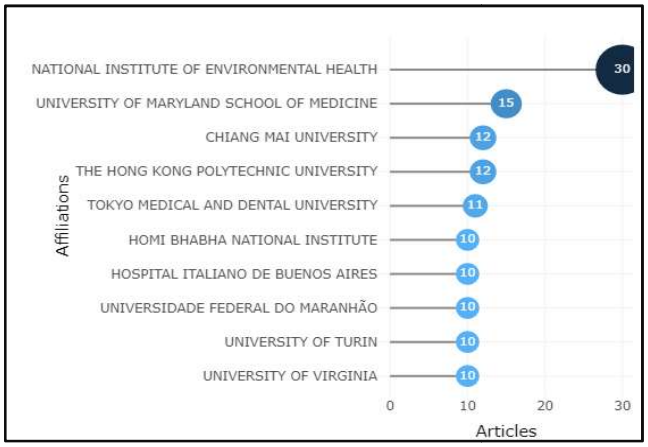


**Figure 1. Most Relevant Affiliations**

**Table 6. Most Frequent Keywords**

| Author Keywords | Occurrences |
|---|---|
| COVID-19 | 235 |
| Human Resource Management | 113 |
| Pandemic | 35 |
| Crisis Management | 14 |
| Digitalization | 13 |
| Health Policy | 13 |
| Job Satisfaction | 13 |
| Telework | 12 |
| Public Health | 11 |
| Health & Safety | 10 |
| Performance | 10 |
| Remote Work | 10 |
| Leadership | 9 |
| Management | 9 |
| Well-Being | 9 |
| Communication | 8 |

Most frequent keywords relating to COVID-19 are 'Pandemic', 'Crisis Management', 'Health Policy' and 'Public Health'. Most frequently used keywords relating to Human Resource Management are 'Digitalization', 'Job Satisfaction', 'Telework Performance', 'Remote Work', 'Leadership Management', 'Health & Safety' and 'Well-Being'.


**Figure 2. Most Cited Keywords**

**Table 7. Citation Analysis Based on Country**

| Country | Total Citations | Average citations per document |
|---|---|---|
| USA | 572 | 15.46 |
| China | 289 | 4.66 |
| Denmark | 189 | 63.00 |
| United Kingdom | 175 | 7.61 |
| Iran | 169 | 14.08 |
| Italy | 129 | 8.60 |
| Hong Kong | 116 | 23.20 |
| Bangladesh | 98 | 32.67 |
| Australia | 92 | 5.41 |
| Canada | 88 | 8.80 |

**Top Countries**: With 572 total citation the United States took the top spot, followed by China (289) and Denmark (189), United Kingdom (175), Iran (169), Italy (129), Hong Kong (116), Bangladesh (98), Australia (92), Canada (88).

## DISCUSSION

Modern organizations need to stay vigilant and adaptable to unanticipated events. Any external crisis, may raise employee uncertainty and pose immediate threats to the performance and viability of the organization. The COVID-19 pandemic, forced organizations to find novel solutions to problems in numerous areas of operations in Human Resource Management (HRM). Businesses assisted their workforce in adjusting to the changed working environment (Carnevale & Hatak, 2020). The spread of COVID-19 caused disruption, uncertainty, complexity, and ambiguity in all companies. The COVID-19 pandemic had a number of negative effects, including economic shock, a worldwide health crisis, changes in social behavior, and difficulties for organizations to carry on with business as usual. Additionally, the strategies included adaptability, improving internal efficiency, talent acquisition, and implementing innovative changes based on organizational evaluation and requirements for efficient business operations. Implementing the right human resource management strategies would improve employees' emotional health, satisfaction, productivity, motivation, and workplace health safety (Azizi *et al*., 2021). Learning more about global challenges and sustainable development can significantly advance our collective knowledge of crisis management. Crisis management has been a persistent problem in business and management studies. It gained greater prominence due to the challenges posed by the pandemic (Liu & Froese, 2020). The tourism and hospitality sectors were more vulnerable to the effects of the COVID-19 outbreak. There have been rising concerns over the current and future viability of the tourism and hospitality sectors. The employees engaged in these sectors need skill development for crisis management, and increased awareness of sanitation, hygiene, and related standard procedures besides professional development, they need to develop optimism about the revival of the industry (Kaushal & Srivastava, 2021). The restaurant industry has been severely affected by the outbreak of COVID-19. The research also looks at the moderating effects of perceived organizational support and employee mindfulness. Job insecurity and emotional exhaustion both influence the fear of COVID-19 among frontline restaurant workers. This influence was mitigated by employee mindfulness (Chen & Eyoun, 2021). Public transportation facilities are the primary means of travel for many people. Concerns have been raised on long-term effective prevention and control measures in public transportation facilities to contain the spread of COVID-19 globally.

**Table 8. Author, Year, Journal, Title of the Document, Total Citation, Total Citation per Year, Normalized Total Citation**

| S no. | Author | Year | Journal | Paper title | Total citations | Citations per year |
|---|---|---|---|---|---|---|
| 1 | J.B. Carnevale, Isabella Hatak | 2020 | Journal of Business Research | Adjustment and well-being in the era of COVID-19: implications for human resource management | 330 | 110 |
| 2 | Vikrant Kaushal, Sidharth Srivastava | 2021 | International Journal of Hospitality Management | Hospitality and tourism industry amid COVID-19 pandemic: Perspectives on challenges and learnings from India | 211 | 106 |
| 3 | Yipeng Liu, Fabian Jintae Froese | 2020 | Asian Business and Management | Crisis management, global challenges, and sustainable development from an Asian perspective | 187 | 62.3 |
| 4 | Jin Shen, Hongyang Duan, Baoying Zhang, Jiagi Wang, John S. Ji, Hang Liu, Liubo Zhang Xiaoming Shi | 2020 | Environmental Pollution | Prevention and control of COVID-19 in public transportation: Experience from China | 113 | 37.7 |
| 5 | Han Cheni, Khalid Eyoun | 2021 | International Journal of Hospitality Management | Do mindfulness and perceived organizational support work? Fear of COVID-19 on restaurant frontline employees' job insecurity and emotional exhaustion | 93 | 46.5 |
| 6 | Xiaorong Ding, David Clifton, Nan Ji, Nigel H. Lovell, Paolo Bonato, Wei Chen, Xinge Yu, Zhong Xue, Ting Xiang, Xi Long, Ke Xu, Xinyu Jiang , Qi Wang, Bin Yin, Guodong Feng, and Yuan-Ting Zhang | 2021 | IEEE Reviews in Biomedical Engineering | Wearable sensing and telehealth technology with potential applications in the coronavirus pandemic | 89 | 44.5 |
| 7 | Antonio Lasalvia Francesco Amaddeo, Stefano Porru, Angela Carta, Stefano Tardivo, Chiara Bovo, Mirella Ruggeri, Chiara Bonetto | 2021 | BMJ Open | Levels of burn-out among healthcare workers during the COVID-19 pandemic and their associated factors: A cross-sectional study ina tertiary hospital of a highly burdened area of north-east Italy | 79 | 39.5 |
| 8 | Mohammad Reza Azizi, Rasha Atlasi, Arash Zia pour, Jaffar Abbas, Roya Naemi | 2021 | Heliyon | Innovative human resource management strategies during the COVID-19 pandemic: A systematic narrative review approach | 78 | 39 |
| 9 | Atanu Kumar Vad Mig. Motsaline Oliar, Asifm Sal Ker | 2021 | Science of the Total Environment | COVID-19 Pandemic and Healthcare Solid Waste Management Strategy | 76 | 38 |
| 10 | Md. Sazzadul Haque, Shariar Uddin, Sayed Md. Sayem, Kazi Mushfique Mohib | 2021 | Journal of Environmental Chemical Engineering | Coronavirus disease 2019 (COVID-19) induced waste scenario: A short overview | 74 | 37 |

Length of the travel time frame, transmission routes, and the social distancing while traveling or at work, may enhance the chance of human infection. This might cause the infection to expand quickly. A comprehensive countermeasure for the prevention and control of COVID-19, includes environmental cleaning and disinfection, and promoting health education among personnel. Such multifaceted approaches can improve the security of public transportation (Lyu, 2020). Significant efforts have been taken to treat the virus and create vaccines, it is also vitally important to look at the systems and technologies for addressing disease emergence, halting its spread, and particularly the strategy for disease prevention. The attention should be to designing wearable devices, unobtrusive sensing systems and telehealth suitable for monitoring at-risk populations and those in quarantine, as well as for assessing the health of carers and management staff and for facilitating triage processes for admission to hospitals for detecting the disease and for monitoring patients with relatively mild symptoms whose clinical situation could suddenly worsen in makeshift hospitals and additional difficulties and chances for potential growth directions are Highlighted (Ding *et al*., 2021). The levels of burnout among medical staff are related to emotional exhaustion, professional efficacy, and cynicism. Burnout was common among nurses, residents, and employees working in intensive care units. In contrast to physicians, being a nurse increased the risk of burnout in the emotional exhaustion, and being a resident increased the risk of burnout in all three subscales. Staff working in non-COVID wards displayed less emotional exhaustion and cynicism than those working closely with patients who had COVID-19. Last but not least, employees who had psychological issues prior to joining the company, had gone through a traumatic COVID- 19 related incident, and had experienced interpersonal avoidance in both their professional and personal lives were more likely to experience burnout. Burnout is a major worry for healthcare workers in a sizable tertiary hospital during the COVID-19 pandemic, and its effects are particularly difficult for junior doctors who work on the front lines. There is need to pay close attention to the psychological wellbeing of healthcare professionals in order to reduce the risk of burnout in the event of a new COVID-19

healthcare emergency (Lasalvia *et al*., 2021). Waste produced by healthcare facilities, medical laboratories, and biomedical research sites has increased considerably. This increased the exposure of refuse pickers, workers, patients, and the community. Improper waste management seriously increases the risk of disease transmission. Negligent garbage management releases harmful and destructive contaminants into society. However, due to the volume of waste produced and its infectious nature, contamination of highly contagious agents like the COVID-19 virus has caused huge instability in healthcare waste handling and subsequent recycling. To combat this contamination and manage healthcare waste, a number of nations have implemented safety measures example in response to the COVID-19 epidemic, on the island of Luzon, there are designated licensed carriers and facilities for the treatment, storage, and disposal of medical waste. To facilitate easy handling, a special permit was issued to collect infectious and pathological medical waste. The name and ID of the conveyance are specially marked on each vehicle used to transfer the waste. These may be read from 15 meters away from the car. A compliance and completion report of transport, certified by a representative from the healthcare and TSD department, must be submitted by the registered transporter (EMB, 2020). Three primary concepts have been followed when managing healthcare waste during the pandemic: reducing superfluous healthcare waste, separating routine trash from hazardous waste, and providing correct treatment to lessen hazards to society and healthcare workers. PPE, such as ultra-filtered masks (Nano), fluid protection long-sleeve clothing, a cap, shoes, elastic leather gloves, protective eyewear, and a full-face shield, are essential for personnel handling COVID-19-contaminated medical waste. The relevant authorities actively monitor the work to ensure that regional norms and regulations, such as new recommendations for cleaning and disinfecting areas around COVID-19, are rigorously adhered to. Daily waste from COVID-19 patients had to be quickly disposed of. To stop the infection from spreading, temporary and permanent storage spaces, containers, and medical waste bags were regularly sanitized (ISWA-Jordan, 2020).

### Conclusion

The 646 COVID-19 studies obtained from SCOPUS database that were published between 2020 and 2023 were the primary basis for this bibliometric investigation. The analysis produced some intriguing findings. The data included 12 distinct categories of publications, with documents and conference paper materials being the most common. There is persistent increase in original COVID-19 research documents, with the majority of them possibly focusing on health care and the general public. The top 10 writers contributed to a very small percentage of papers. J. Wang was cited as the top researcher in other investigations. US academics ranked first in publications even though China published the most documents. Most COVID-19 studies were published in BMJ and Sustainability (Switzerland). The National Institute of Environmental Health was shown to be the top-producing institution in three evaluations. Three contemporary research hubs in the United States, China, and the United Kingdom are also mentioned by the top universities. The COVID-19 outbreak had a profoundly negative impact on every modern industry and organization, but it has accelerated the development of our HR policy and allowed for a drastic re-prioritization. The evolving function of HRM will be better understood with more in-depth investigation at different stages of the pandimic. The application of AI in particular is growing in popularity. Giving academics and researchers a complete perspective of COVID-19 research output, this study reveals various novel findings. The co-occurrence and bibliographic coupling analyses of the most-cited literature also revealed trends in COVID-19 research.

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