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Research article

Innovative human resource management strategies during the COVID-19 pandemic: A systematic narrative review approach

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ABSTRACT

Background: The spread of COVID-19 creates disruption, uncertainty, complexity, and ambiguity in all organizations. People are the primary asset of any organization and help achieve their goals. Accordingly, to manage human resources sustainably, the organizational strategy review is an appropriate retort.
Objective: The purpose of this comprehensive review study is to identify unknown challenges, strategies, and unusual decisions related to human resource management other than clinical organizations during the COVID-19 pandemic.
Methods: The study applied a narrative review approach dissection based on organizations' human resource management strategies to combat the COVID-19 impacts. The review study conducted published literature research through the electronic databases at Web of Science, PubMed, Scopus, PsycINFO, and LISTA. The study extracted 1281 articles from the mentioned databases from November 2021 to the first quarter of 2021. This study reviewed selected papers, included 15 relevant articles, and removed duplicates according to inclusion and exclusion criteria. Finally, the study developed a conceptual framework of human resource management strategies based on the literature findings to fight against the COVID-19 pandemic.
Results: The COVID-19 pandemic posed numerous adverse consequences, such as economic shock, global health crisis, change in social behaviors, and challenges at the organization level to continue business operations. Besides, the strategies included flexibility, strengthening internal efficiency, talent acquisition, and making innovative changes based on organizational assessment and needs for smooth business activities.
Conclusion: The appropriate human resource management strategies implementations would increase employees' mental well-being, satisfaction, productivity, motivation, and health safety at the workplace.

1. Introduction

In late December 2019, the new and widespread COVID-19 disease started in China and spread rapidly worldwide, and on March 11, 2020, the World Health Organization declared it a pandemic. As of August 25, 2020, there were more than 23.3 million confirmed cases of COVID-19, and more than 800,000 deaths were reported globally [1, 2]. According to a joint statement by the World Health Organization and the International Chamber of Commerce, COVID-19, with its dual impact on health and the economy, requires immediate action by governments to minimize its transmission. These early and effective measures can reduce short-term risks of infection for employees and reduce long-term costs for trade and the economy of countries[3]. COVID-19 is currently the biggest global health challenge, and because of its widespread and constant mutation, it has left organizations with volatility, uncertainty, complexity, and ambiguity. This pandemic has created many challenges for organizations, including business continuity, low employees' motivation, distance working, unemployment [4-6]. Personnel are one of the main factors in the formation, development, and implementation of organizational operations in any organization. The effective performance and interaction of employees ensure efficiency, which ultimately promotes

productivity, sales growth, and profitability and reduces employees' turnover [7-11]. Therefore, in the current crisis, the safety, health, and well-being of employees are considered by many organizations [12, 13]. Human resource managers who are in charge of hiring people, managing employees' performance, salaries and benefits, and also developing and revising employees' classifications are looking for innovative, creative, and effective ways to solve the problems of employees, maintain their health[14, 15] and support them by creating a reliable management strategy[16-18]. The historical challenge of COVID-19, given the exceptional and uncertain circumstances and changing economic landscape, requires deep thinking and flexibility to manage human resources properly[5, 7, 19]. In response to this crisis, the entire workforce of San Matthew Libraries was able to reach customers by telephone in less than two months and created new teams to design solutions and provide services to the public in a completely changed and flexible context. They also tried to respond to different situations in the organization by designing thoughtful questions and enhancing the abilities of employees[7, 20, 21]. In 2020, Davidescu and colleagues examined the effect of flexible working time and places, such as total home office, partial home office, flex office, and co-working, on the job satisfaction and performance of Romanian employees in order to design sustainable human resource management at the national level. Results of their work showed that the main forms of work flexibility, such as home office and employee turnover, have been applied in the Romanian labor market to a small extent. One-third of Romanian employees stated that the flexibility strategy has been implemented, but little attention has been paid to flexible working hours, flexible working days, shift working, and overtime. In terms of workplace flexibility, working from home was most welcomed by the employees, while the working from home strategy had been implemented to a very little extent. However, the results of this study refer to a combined method of working from home and workplace flexibility as a suitable solution[8]. A study by Radic et al., (2020) on the cruise line staff found that the company did not have a proper human resource management strategy during the COVID-19 pandemic. Various cases of psychological problems were observed in the employees of cruise companies. Therefore, cruise line companies need to develop appropriate strategies to control employees' anxiety, depression, and stress during a crisis like the COVID-19 pandemic. The results of this study showed that the employees of a cruise line company did not have hope or a sense of belonging to their company. The company had failed in terms of human resource management because employees had become distrustful and frustrated with it[22]. Given that crises also create opportunities, the current COVID-19 crisis provides a unique opportunity to review the company's organizational culture and human resource management strategies[22]. Various natural, economic, political, or health crises, including COVID-19, should be used as an opportunity to scrutinize the capabilities of individuals and organizations and develop them[1]. Successful companies around the world, such as Facebook, Amazon, Google, have now found that rapid change offers amazing opportunities and advantages[7, 23]. According to a survey, the healthcare (56%), mining (55%), manufacturing (46%), education (9%), insurance (10%) and telecommunication (12%) sectors have been affected by COVID-19[8]. Since COVID-19 has had adverse effects on many organizations and companies, this comprehensive review study is an attempt to determine unknown challenges, strategies, and unusual decisions related to human resource management at the global level in order to improve organizational performance and provide answers to these questions:

- How are the co-authorship and co-occurrence of the articles related to and conducted about this topic?
- What are the challenges of human resource management in the COVID-19 pandemic?
- What are the strategies of human resource management in response to the challenge of the COVID-19 pandemic?
- What are the new findings of human resource management to answer the study research questions?

The purpose is to identify unknown challenges, strategies, and unusual decisions related to human resource management other than clinical organizations during the COVID-19 crisis. In this study, the challenges and strategies of clinical organizations due to changes in the scope and interpretation of the study are not included; so, it requires a deeper and broader study of these organizations.

2. Materials and methods

2.1. Design

In this study, a systematic search was carried out in international electronic databases, including PubMed, Web of Sciences, and Scopus, using the keywords; human management and COVID-19. We eliminated the

word "resource" because it was not necessary in the search strategy, and the word "human" includes all of the words related such as "resource". The search strategies used for each database and the number of results obtained are presented in table 1. In total, 797 records, published until November 20, 2020, were extracted from these databases. Later, the records were updated and all records published in the year 2021 were also searched until April 23, 2021, which included 484 records. After removing duplicates, the titles and abstracts of these articles were reviewed based on the inclusion and exclusion criteria. Inclusion criteria included all types of studies that examine the challenges and strategies of human resource management during the COVID-19 pandemic. Exclusion criteria included non-English language articles, articles whose full text could not be accessed, and clinical organization articles due to their different nature. After screening the titles and abstracts of the articles, 63 articles were carefully selected for full text review based on inclusion and exclusion criteria and finally, 12 articles were included in the study [24]. The reasons for excluding the articles are listed in figure 1. Then, the references and citations of the selected articles were reviewed and 4 articles that had been cited in the selected articles were added to the study. Figure 1 shows a flowchart that indicates the steps of searching, screening, and achieving the final number of articles as well as data extraction. In the next stage, the co-authorship and co-occurrence networks of keywords in 1,112 retrieved articles were illustrated using VOS viewer program software (version 1.6.16) for visualizing the co-authorship and co-occurrence networks in the articles. Then the contents of the final 15 articles were analyzed. The results of this study are presented in the form of tables, images, and textual analysis. In the end, the conceptual model of human resource management in the COVID-19 pandemic was designed and presented using the Edraw.Max.7.9 software.

Table 1. Search strategy used in the databases

| Database	Search strategy	Number of results
PubMed	("Coronavirus Infections"[Mesh] OR "Coronaviridae"[Mesh] OR "Coronavirus"[Mesh] OR "Coronavirus Infections"[Mesh] OR COVID-19[TIAB] OR COVID19[TIAB] OR SARS-CoV-2[TIAB] OR coronavirus*[TIAB] OR Delta coronavirus* [TIAB] OR Alphacoronavirus[TIAB] OR Beta coronavirus[TIAB] OR Gamma coronavirus[TIAB] OR (corona[TIAB] AND Virus*[TIAB]) OR 2019-nCoV[TIAB] OR SARS2[TIAB] OR "SARS 2" [TIAB] OR "severe acute respiratory syndrome coronavirus 2" [Supplementary Concept] OR "spike glycoprotein, COVID-19 virus" [Supplementary Concept] OR "COVID-19" [Supplementary Concept] OR "COVID-19 drug treatment" [Supplementary Concept]) AND (Management[TIAB] AND HUMAN*[TIAB])	962
Scopus	TITLE-ABS-KEY ((covid-19 OR covid19 OR sars-cov-2 OR coronavirus* OR deltacoronavirus* OR alphacoronavirus OR betacoronavirus OR gammacoronavirus OR (corona AND virus*) OR 2019-ncov OR sars2 OR "SARS 2") AND (manag* W/5 human*))	212
Web of Sciences	Ts= ((COVID-19 OR COVID19 OR SARS-CoV-2 OR coronavirus* OR Delta coronavirus* OR Alphacoronavirus OR Beta coronavirus OR Gamma coronavirus OR (corona AND Virus*) OR 2019-nCoV OR SARS2 OR "SARS 2") AND (Manag* NEAR/5 HUMAN*))	107
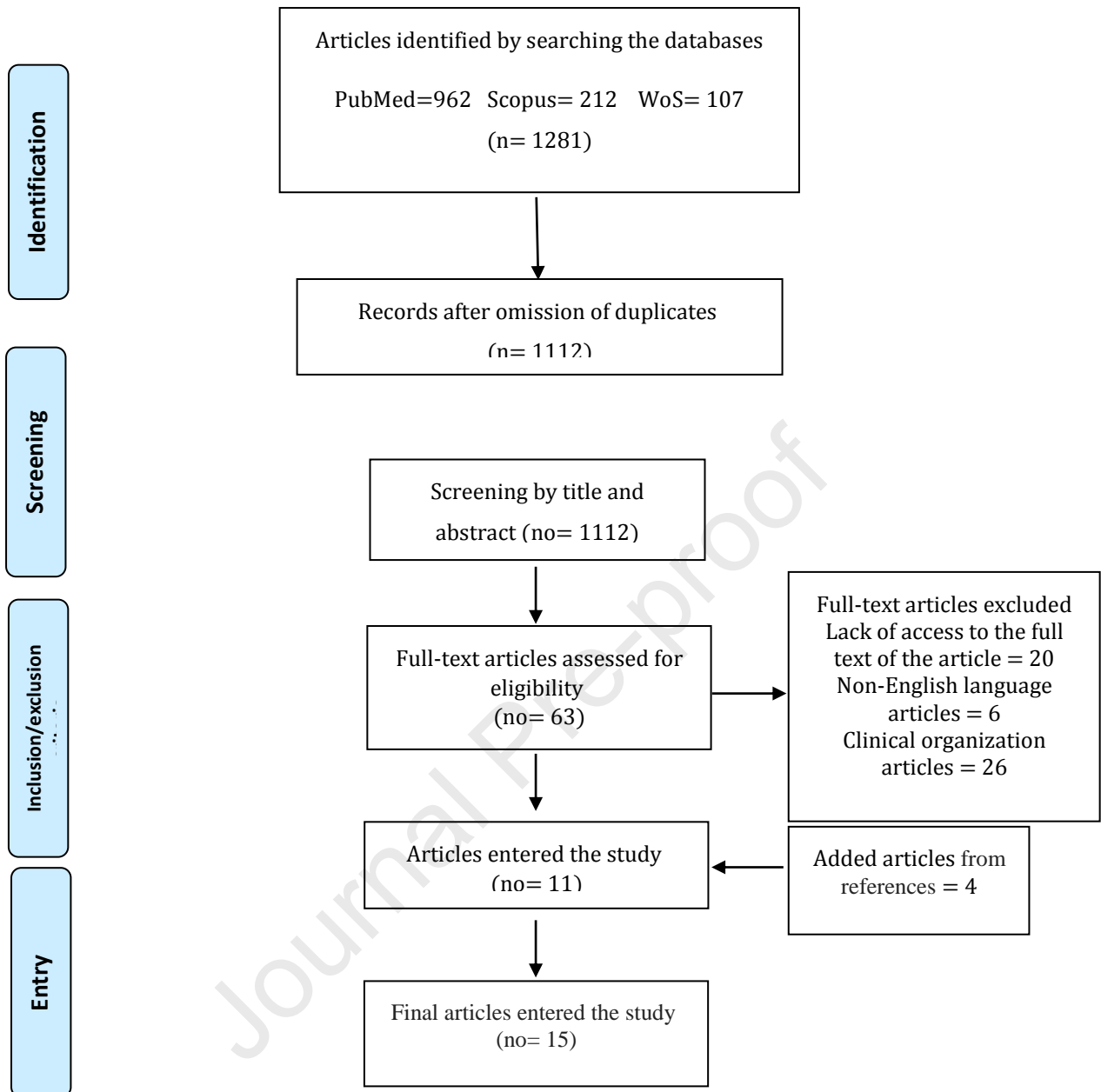
Fig. 1. The screening process of articles included in the study

4

3. Results

3.1. Descriptive statistics

In the first part of the findings, general information of 1,112 articles retrieved in the first phase of the study was reviewed and presented. We visualized the co-authorship and co-occurrence networks to show the networks between authors of those articles and how and who collaborated to conduct related research about human management and the COVID-19 pandemic. Also, we extracted all of the keywords from those documents to find out the most used keywords mentioned in 1112 records. The most used words and authors, as shown in the figures, are at the core of the figures and the other words are around them. As seen in figure 2, out of 7,680 authors of these articles, 110 authors had at least 3 articles. Also, 74 articles were related to each other and formed 11 clusters. Among them, Li y, with 12 articles, had the highest number of articles and also had the most communication capability and total link strength. We analyzed out of 5919 keywords retrieved in these articles, 557 keywords had a minimum frequency of 3 times. The co-occurrence network of keywords in these articles was determined and the most used words in these articles were "humans" and "COVID-19" (Figure 3).
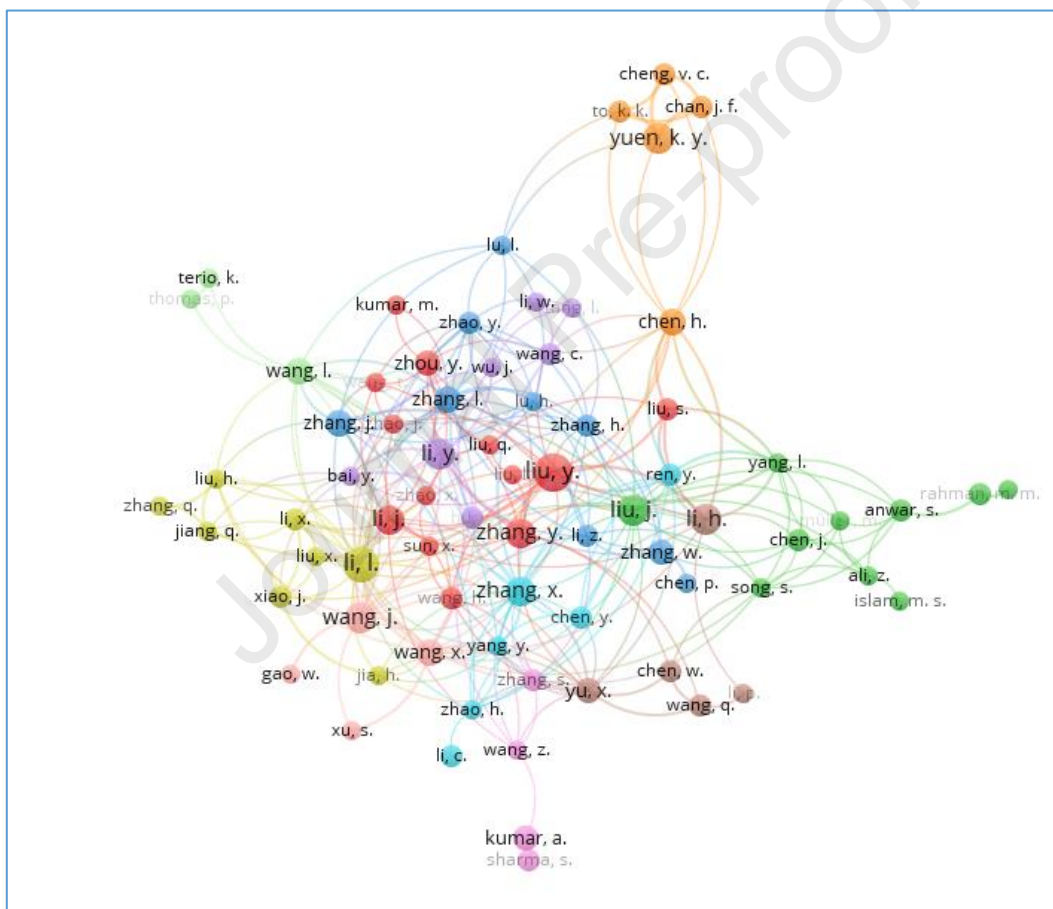

Fig 2. Visualization of the co-authorship networks between the authors of retrieved articles

Fig 3. Visualization of the co-occurrence network of keywords in the retrieved articles

In the second part of the findings, the results of the review of retrieved articles, the bibliographic information of 15 articles entered in the study, including the author name, article title, year of publication, journal name, the impact factor (IF), quartile, affiliation, and journal index location were obtained and presented in table 2. Also, according to articles used in this study, the challenges during the COVID-19 pandemic and the strategies of human resource managers in dealing with COVID-19 were determined and presented in tables 3 and 4, respectively.

Table 2. Bibliographic information of the articles included in the study

Author name	Article title	Year	Journal	Impact factor	Quartile	Affiliation	Index location
Dennerlein JT, Burke L, Sabbath EL, Williams JA, Peters SE, Wallace L, et al.[12]	An Integrative Total Worker Health Framework for Keeping Workers Safe and Healthy During the COVID-19 Pandemic	2020	Human Factors	3.165	Q1	USA	ISI, Scopus, PubMed
Chanana N[14]	Employee engagement practices during COVID-19 lockdown	2020	Journal of Public Affairs	-	Q2	India	ISI (ESCI), Scopus
Cooke FL, Schuler R, Varma A[25]	Human resource management research and practice in Asia: Past, present and future	2020	Human Resource Management Review	4.922	Q1	Australia, Switzerland, USA	ISI, Scopus
Cooke FL, Dickmann M, Parry E[26]	IJHRM after 30 years: taking stock in times of COVID-19 and looking towards the future of HR research	2020	The International Journal of Human Resource Management	3.040	Q1	Australia, UK	ISI, Scopus
Caligiuri P, De Cieri H, Minbaeva D, Verbeke A, Zimmermann A[27]	International HRM insights for navigating the COVID-19 pandemic: Implications for future research and practice	2020	Journal of International Business Studies	7.724	Q1	USA, Australia, Denmark, Canada, UK	ISI, Scopus
Wu L-K, Su W-H, Hsiao S-H, Hou M-F[28]	Preparedness for the next emerging infectious disease outbreak by implementing strategic human resource management	2020	Journal of the Chinese Medical Association	2.170	Q1	Taiwan	ISI, Scopus, PubMed, Embase, DOAJ
Nangia M, Mohsin F[29]	Revisiting Talent Management Practices in A Pandemic Driven Vuca Environment–A Qualitative Investigation in The Indian It Industry	2020	Journal of Critical Reviews	-	Q4	India	Scopus
Gómez SM, Mendoza OEO, Ramírez J, Olivas-Luján MR[1]	Stress and myths related to the COVID-19 pandemic's effects on remote work	2020	Management Research: Journal of the Iberoamerican Academy of Management	-	-	Mexico, Denmark, USA	Emerging Sources Citation Index; ProQuest
ROGGEVEEN S, CHEN S-W, RIVER HARMONY C, MA Z, Qiao P[16]	The Adaption of Post COVID-19 in IHRM to Mitigate Changes in Employee Welfare Affecting Cross-Cultural Employment	2020	IETI Transactions on Economics and Management	-	-	Australia, China	-
Meyer KE[30]	Thinking Strategically During the Global Pan (dem)ic	2020	-	-	-	-	-
Lim V[31]	War with SARS: an empirical study of knowledge of SARS transmission and effects of SARS on work and the organizations	2003	Singapore medical journal	1.359	Q1	Singapore	ISI, Scopus, PubMed, Embase,
De Leon V[15]	Human Resource Management During the COVID-19 Pandemic	2020	Doctoral dissertation	-	-	California State University, Northridge	-
Manjula DP[32]	Human Resource Coping Strategies in „New Normal" and their Impact on Work Places: Systematic Review	2021	Journal of Contemporary Issues in Business and Government				ISI (ESCI)

Butterick M, Charlwood A[33]	HRM and the COVID-19 pandemic: How can we stop making a bad situation worse?	2021	Human Resource Management Journal	3.816	Q1	American	ISI, Scopus
Agarwal P[34]	Shattered but smiling: Human resource management and the wellbeing of hotel employees during COVID-19	2021	International Journal of Hospitality Management	6.701	Q1	United Kingdom	ISI, Scopus

Table 3. Challenges during the COVID-19 pandemic

Challenge	Description of the challenge
Economic shock	- Extensive supply-demand and market shock - Reduction of production worldwide, shortage of raw materials, pressure on the market, and reduced income - Supply disruption due to dependence on imports of raw materials from other countries such as China - Disruption of global and domestic demand due to the impact of the COVID-19 pandemic on consumer spending - Low profitability and disruption in the production of many companies and investments - Stress and pressure on the bank and finance due to decreased consumers' loan repayments and lack of credit growth - Reduced oil prices - Closing of businesses - Supply Chain Shock (The supply chain includes all businesses that directly or indirectly meet the end customer demand, for example, demand shock: reduced consumer consumption, supply shock: factory shutdown)[4, 35] - Increasing unemployment[33]
Change of social behavior	- Change in spending pattern - Prohibition of large gatherings and social distancing - Change in the travel pattern - Decreased demand for services, particularly tourism, entertainment, aviation, schooling, electronics, consumer goods, and luxury items - Interdependence of countries - Changes in service delivery and lifestyle - Mental health problems such as fear, stress, anxiety, depression, anger, frustration, despair[1] - Increase work at home[33, 36]
Challenge at organizational level	- Staff safety - Unemployment and underemployment - Working from home and limited work solutions as a result of workflow disruption - Reduced employees' motivation - Reduced salary - Reduced customers and sales - Additional cost for hiring new employees - Disruption in the work of organizations due to the infection of employees with COVID-19 - Weakening of morale, reduced ability and concentration, and creation of stress in other employees due to the illness of a colleague - Disruption of workflow due to the death of a colleague - Staff absence and transfer - Modifying internal laws, policies, and procedures in accordance with customer requirements - Additional manpower and the need to train people to acquire new skills - Complexity in work due to the integration of technology and digitalization - Increased workload - IT challenges following total and partial home office and adapting to them - Customer needs and the inability of organizations to deliver on-site services - Spreading rumors in the organization and managing fear in the organization - Different attitudes towards access to health records and disclosure of the identity of affected employees[1, 4, 16, 31] - Injustice in the increase of unemployed people and lack of income against people who work at home and receive a normal salary[33, 34] - Low job independence and job insecurity[33, 34] - Increasing employees' working hours due to the dismissal of their colleagues[34]

Table 4. Human resource managers' strategies for COVID-19 management

Strategy	Description of the strategy
Flexibility and employees' virtual life cycle	- Flexibility of contracts - Distance working and working from home - Floating hours and flexibility - Open workspaces - Virtual work cycle of employees from arrival to departure and conducting virtual interviews - Encourage employees to work from home - Knowledge of employees on how to work or deliver work in difficult situations - Define a regular procedure for separation and determine a boundary between office and home[1, 4, 14, 34]
Ensuring the availability of adequate resources for employees' home office	- Provide sufficient resources such as IT assets to meet the needs of employees to help them work efficiently - Provide full logistical support for the transportation of IT infrastructure to new applicants or employees - Create a virtual processing program for communication - Connect the customer network to the organization network in the employees' home during the current crisis in order to continue operating the business[4, 14, 15, 25]

Providing employees with training courses to gain new skills	- Provide online meetings to strengthen skills, share knowledge and distance learning - Develop employees' skills by creating a user-friendly virtual platform. For example; encouraging employees and managers to participate in various meetings, so that based on the meetings attended, projects are assigned to employees - Use of potential and mutual skills and investing in employees - Virtual education of health care methods[4, 26]
Participation, development, and promotion of employees' motivation by establishing continuous communication using innovative methods	- Create a formal communication group on WhatsApp and regular communication between managers and employees - Use of group SMS service and sending messages to all employees of the organization - Have a slogan; "although we are far from each other, we are in contact with each other" - Create a cloud platform that is downloaded via mobile phone, so that employees can find it and read content updated by the CEO. Through this program, employees can be fully connected. - Communicate continuously with the company's senior managers about managing work from home as well as supporting the family, so that employees can communicate in the new work environment. - Interaction and communication of employees with managers such as virtual tea parties, team games, - Provide virtual games on a weekly basis, especially on Fridays - Participate in motivational sessions such as Ted lectures - Brainstorming[4, 14, 34]
Use of innovative methods to support employees and maintain their health and welfare	- Create a free line to help employees and telemedicine counseling up to seven consultations per month in order to maintain health and safety and reduce stress - Hold webinars and virtual sessions on staff fitness; for example, Zumba, yoga, and health talks by experts - Helping and supporting employees by identifying where employees live; for example, when employees have to cook for themselves, the company can give them enough time to spend for themselves. - Reward active employees - Offer additional benefits to compensate employees instead of reducing employee payments, and try to give more benefits to employees. How we deal with employees in these critical situations will make them remember that when they needed the organization most, how we helped them[4, 14, 26] -Ensure that policies are implemented equally to all remote and in-office workers[32, 34]
Providing innovative fun activities for the employees	- Virtual communication with employees such as an entertainment club (photography, study, and cooking club.). - Create a campaign called: "Let's do it together" in which employees share stories about how to spend time in quarantine, how to help with daily chores. - Use of creative employee engagement strategies such as interactive virtual team meetings (where employees are told to tour their home / introduce their family), celebrations such as birthdays, anniversaries, or personal talents (painting, music [4, 14, 34]
Strengthening internal efficiency and talent acquisition	- Strengthen the internal team to attract and acquire talent. Because hiring a consultant costs more. Instead of paying a consultant, pay the employees. - Hiring new members and not postponing offers - Outsourcing services - Launch of a dedicated business unit focused on the Microsoft business plan to strengthen internal efficiency and reduce outsourcing and also making preparations for the future[4] - Periodic feedback from employees[32]
Use of staff safety measures and focusing on work condition	- Use of protective equipment - Distribution of protective equipment to employees at their discretion - Comprehensive and common organizational department strategies, such as horizontal cooperation within the organization through compliance with health and infection control protocols in the workplace, increasing fresh air conditioning by using high-efficiency air filters to reduce pathogens, methods of separating employees from customers, providing handwashing facilities in the workplace, providing personal protective equipment for employees & customers (face shields, masks), testing the staff, implementing supportive policies, and encouraging employees to use the policies - Observance of safety protocols by employees, increasing the availability of testing for employees, responding to new needs in maintaining the health and safety of employees[1, 12]
Managers' commitment	- Transparent and empathetic communication with employees from all levels of management and making new policies, careful planning to protect employees against COVID-19 - Daily participation of middle managers in COVID-19 pandemic prevention meetings in

	order to get acquainted with the latest international and domestic COVID-19 prevention approaches - Obligation of administrative managers for supervision and monitoring during the working day in order to monitor the implementation of pandemic prevention measures, resolve disputes, obtain on-site feedback and take new measures[12, 28, 34]
Selection and participation of employees in decision-making	Some people are more successful in managing stress in uncertain situations and are able to make better decisions. Employees with a high level of tolerance for ambiguous conditions face little stress at work. Employees with the ability to endure difficult situations not only do not back down from stressful situations but also remain positive. Curious employees can grow in situations of anxiety and uncertainty. They can also be creative, open-minded, and adapt to new situations. In this period of global stress and uncertainty, organizations must identify and select the right employees based on these three competencies and benefit from their positive effects in order to grow the organization. - Creating an intimate atmosphere with employees and communicating with them by asking questions such as (1) What factors cause your health to be good or bad here? (2) What factors can have a positive and not so positive effect on your health? (3) What factors can contribute to the health of the team/unit/employer[12, 26]?
Strengthening cohesion and sharing experiences	The COVID-19 pandemic has created stress and common frustration in the world. Currently, training and providing experience help to reduce ambiguity in different societies and cultures, such as how to use information technology in a comprehensive way or the rules of communication and workflow[12].
Making changes based on organization assessment and data	Decision-making and continuous improvement of the safety, health, and well-being of employees by continuous monitoring, for example, monitoring of carbon dioxide levels in indoor air, and the amount of fresh air in the workplace[12]

4. Discussion

The first goal of this research was to comprehend the bibliographic review of the articles used in this study, which provided an overview of the articles related to human resource management and COVID-19, as well as keywords used by authors in relation to human resource management. We found that human resource managers took active participation in the prevention of COVID-19, as paying attention to the health of employees is a very important factor in the performance of an organization[28, 37]. Since no one knows when this pandemic will end, the challenges and strategies presented in this study can be a good reference for guiding, responding to, and controlling COVID-19 in organizations. Second, our study shows that the challenges of COVID-19 include economic shock, changing social behaviors, challenges at the organizational level. Third, the strategies that were used in responding to COVID-19 include flexibility, use of cyberspace in work-related activities, staff safety, focusing on working conditions, participation, development, and motivation of employees by continuous communication with them and use of creative methods, provision of training courses for employees, use of creative ways to support employees and ensure their health and well-being, use of creative fun activities for employees, ensuring adequate provision for efficient and distance working, strengthening internal efficiency and gaining talent, the commitment of managers, selection and participation of employees in decision-making, strengthening cohesion and sharing experiences, and making necessary changes based on organizational assessment and data. Finally, the main goal of any organization in the current situation is to maintain its survival, welfare, and effective management of human resources. Therefore, effective and intelligent management of human resources in this pandemic is very important[4]. Thus, it is recommended that financial and business organizations and companies use creative methods of talent management to ensure their survival. Talent management plays an important role in recognizing competencies, motivating staff, and retaining talent in the organization. Various human resource functions such as recruitment, training, performance management, and planning for the replacement of employees play a key role in combining methods for talent management[4]. According to Nangia and Mohsin (2020), strategies related to participation and continuous communication with employees virtually, creating more benefits to encourage working from home, promoting the physical and mental health of employees, improving staff training, and increasing internal efficiency of the organization in these conditions have high priority than acquisition and identification of talent[4]. Obviously, in such situations, it is important to use different strategies such as flexibility, and pay attention to talent management, job performance, job satisfaction,

organizational performance, professional growth and development, social and occupational relationships, personal professional performance, work motivation, and IT culture[8, 38]. In flexibility, attention should be paid to the four principles of ability to make decisions in unknown areas, development of organizational agility, the practice of "do it yourself" and use of available resources to achieve goals[1]. The effect of work flexibility on organizational performance as well as employees' satisfaction and motivation has been studied in several studies and positive effects of work flexibility have been reported[39, 40]. Adam et al., (2020) acknowledged that working from home has its advantages and disadvantages. Among the advantages of working from home, we can point to:

- creating a sense of belonging to the organization
- increasing employees' satisfaction for reasons such as balance in life and work
- reducing stress
- reducing commuting time
- increasing flexibility in organizational work
- creating social distancing during the pandemic and optimizing the work environment.

They also listed the disadvantages and challenges of working from home as:

- social isolation
- the need for new forms of management
- interference between personal and occupational life
- the cost of setting up home office facilities
- and the need for time management skills[41].

Careful study and further research in this area are needed in different societies because different societies have different facilities. In the uncertain conditions caused by COVID-19, in order to create safe and reliable conditions in the organization, it is necessary to pay attention to the three pillars of reliability, which include human resources, information technology, and management in general and not separately.[42]. Human resource reliability refers to the ability to anticipate and detect potential risks and problems, prevent disruptions in the performance of IT systems, maintain adequate performance, solve problems to promote effective performance and learn through experience. The manager's reliability, however, is focused on the ability to anticipate and detect potential risks and problems that prevent the organization from reaching its goals, change in the management system to prevent disruption, restore the organization's performance to its natural state in case of disruption, and learn from mistakes. This ratability promotes work motivation, job satisfaction, organizational values, commitment and interaction, and managers' abilities and interpersonal relationships[42, 43]. The structure and interaction of these three pillars (human resources, information technology, and management) in the organization must change in the wake of crises. Due to the quarantine and isolation situation caused by the outbreak of COVID-19, the level of anxiety, stress and psychological problems of employees is increasing, so developing strategies to improve the physical and mental health of employees as well as communication mechanisms with employees, customers, and suppliers is recommended[1, 44]. Physical and mental health is the cornerstone of effective performance, service quality, and employees' motivation[45, 46], which help to achieve the organization's mission and productivity, and increased customer satisfaction, sales, and profitability[14]. Due to the COVID-19 pandemic and its destructive effects on communities and limited organizational resources, sustainable human resource management with the long-term development of human resources from consumption to development is important and the concept of human resource management, organizational value, and organizational strategies should be reviewed with a focus on the health of employee and workplace, employees' participation, collaboration and development, flexibility, compliance with labor regulations, justice and equality[8]. Finally, the conceptual model of sustainable organization in terms of human resource management in uncertain conditions caused by COVID-19 was presented based on the findings of this study (Figure 4), which shows that COVID-19 disease has faced business organizations with fluctuation, uncertainty, complexity, and ambiguity in the economic, social and organizational contexts. Human resource managers by intelligently identifying the challenges ahead and using early and effective strategies such as flexibility, talent management, and paying attention to the three pillars of reliability in the organization, can achieve the organization's goals, increase productivity, enhance customer and employee's satisfaction and ensure the stability and survival of the organization.
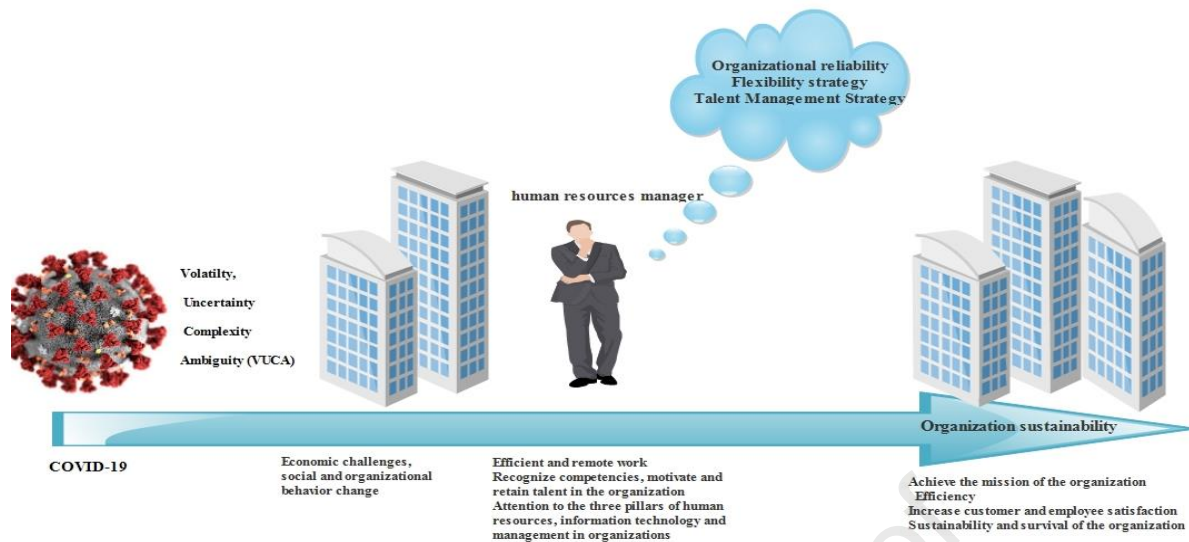
Fig 4. Sustainable organization in terms of human resource management in uncertain conditions caused by COVID-19

4-1. Limitations

Among the limitations of the present study was the small number of studies on COVID-19 and human resource management since the outbreak of the disease. The researchers tried to use the references and citations of the articles used in this study to conduct a more detailed review of the available studies. Also, in this study, only English language articles, published in international and valid databases, were reviewed and other sources of information, including websites, were not considered. Finally, this study, by presenting a conceptual model of sustainable organization in terms of human resource management to overcome the challenges of COVID-19, tried to develop a reliable concept that can be used in other studies to manage organizations and employees in the best possible way and bring about better outcomes. On the other hand, studies that focused on the details of our topic and visualized the articles which were retrieved had not been found out up to this study. We also focused on the comprehensive literature review of all related documents indexed in 3 main databases. For further studies, the following are suggested: empirical research to know more about the challenges of human resources during COVID-19, innovative strategies for managing human resources during the COVID-19, the experience and lessons of the clinical organization, qualitative study of health professionals for human resources management during this crisis and, human resources management Strengths and weaknesses for Managing COVID-19 in Developing Countries.

5. Conclusion

This study, while expressing the challenges of the COVID-19 crisis, outlines the strategies of human resource management that should be used by organization managers to increase satisfaction, productivity, motivation, adaptation to change, welfare, and health of employees in the workplace by creating better working conditions, talent management, and flexibility. We focused on the comprehensive literature review of all related documents indexed in 3 main databases. Also, no studies were found that focused on the details of our subject. Further studies on the short-term and long-term effects of COVID-19 on human resources are recommended through survey methods, such as interviews and questionnaires.

Declarations

Data availability statement

Data will be made available on request.

Declaration of interests statement

The authors declare no conflict of interest

Additional information

No additional information is available for this paper.

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