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Interventions for adapting health care providers to new situations in the workplace during the COVID-19 pandemic: A scoping review for developing a policy brief

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Abstract

The rapid change in the conditions of health care centers following the sudden onset of the COVID-19 pandemic led to work challenges and role changes and the transfer of staff to new and unfamiliar workplaces. This study aimed to develop policy interventions to adapt health care providers to the new situation in the workplace during the COVID-19 pandemic. A systematic literature review was carried out using international databases to identify English-language studies to identify policy interventions. The viewpoints resulting from the observations of the research team and seven health system experts were used to categorize the interventions. Three main policy interventions were identified: creating a flexible and efficient system through modifying personnel roles, adequate training of health care personnel about work conditions when treating COVID-19 patients, and creating a supportive and motivating work environment.

KEYWORDS

acclimatization, COVID-19 pandemic, critical care, health care provider, health services research

Key points

- The rapid change in health care centers following the COVID-19 pandemic crisis due to changing procedures and policies by the government and other health institutions and the immediate formulation of new policy decisions has created significant challenges for health care providers to adapt to unfamiliar and stressful workplaces.



- Due to the lack of comprehensive and consistent policy interventions to adapt health care providers to the problematic conditions of the new work environment during the COVID-19 pandemic, the current policy document was developed with three policy options.
- Three main policy interventions were identified: (1) creating a flexible and efficient system through modifying personnel roles, (2) adequate training of health care personnel about work conditions when treating COVID-19 patients, (3) creating a supportive and motivating work environment.
- While highlighting each intervention's potential benefits and challenges, the identified interventions in our study provide key policy directions for adapting health care providers to the new workplace conditions during the COVID-19 pandemic and other future crises.

INTRODUCTION

The COVID-19 pandemic has undoubtedly been one of the most significant crises in the last 50 years (Davison, 2020). The pandemic made an unprecedented impact on the workplace and various organizational practices and forced millions of people worldwide to change their work patterns (Richter, 2020). The outbreak has also challenged the health care sector worldwide, leading to unprecedented and unexpected pressures on the health care system (Carroll & Conboy, 2020). Significant changes have taken place in the provision of health services, including the cessation of routine services, changes in clinical settings, the transfer of staff to unfamiliar and new work environments, recruitment of physicians and nurses who had no infectious disease expertise to provide care to patients with COVID-19, and the rationing of equipment and services in some cases (Denning et al., 2020). To respond to these immediate changes, there was little time to decide how to prepare to reduce the sudden impact of the COVID-19 pandemic on the health care centers, staff, and patients. It was necessary to determine the assignment of COVID-19 patients and hospitalization units and create new staff teams and manage their roles (Catania et al., 2021).

PROBLEM STATEMENT

Following the sudden onset of the COVID-19 pandemic and the rapid change in the conditions of health care centers, the development of new management policies and the need to modify the provision of care in unusual ways created significant challenges for health care provision and management in health care centers (World Health Organization, 2020). Challenges of health care personnel caused by new and different working conditions include multiple responsibilities and roles, increasing workload, working long hours with personal protective equipment, working in unfavorable conditions with COVID-19 patients, fear of becoming infected or infecting others, and worrying about performance at work or making mistakes (Denning et al., 2020; Huh, 2020; Irandoost et al., 2020).

Work challenges, role changes, and transfer of staff to new and unfamiliar workplaces are stressful and further affect individuals' mental health. This affects the performance and efficiency of the staff and organization (Cipolotti et al., 2021). On the contrary, traumatic

events or adverse conditions during natural disasters, crises, and pandemics may lead to burnout (Chemaliali et al., 2019). As stress in the workplace leads to mental fatigue, depression, and a decreased sense of personal success, burnout is associated with adverse effects on the decision making of clinical care staff and on patients (Peikes et al., 2019).

Regardless of the nature of the job, the adaptation of employees to new conditions in the workplace is considered a challenging event in their lives. The main focus of this process is usually to help the newcomer to adapt and accept the habits and procedures of the organization (Gajda, 2015). Therefore, the health care personnel's physical safety and mental stability should be a priority (Kim & Choi, 2016). In this regard, the establishment of psychological coping workgroups and support platforms for comprehensive support of health care professionals and experts may play a role in meeting the needs of staff and maintaining their mental health (Alizadeh et al., 2020; Huh, 2020). Employees should be able to achieve shared goals through transparency and cooperation at all levels of the system; through maintaining the benefits of the system and creating a solid and sustainable health care system, employees can respond quickly to unpredictable and ever-changing environmental challenges (Knowles et al., 2020). Plans and policy interventions must be adapted to the new circumstances, and they should support the staff to overcome the COVID-19 pandemic crisis (Cipolotti et al., 2021). Eradicating the pandemic requires sustainment of the health care workforce through actions that mitigate stress, promote resilience, and enhance performance (Morganstein & Flynn, 2021). Thus, due to a lack of adequate support by health care officials for health care personnel (Delgado et al., 2020); an increase in the necessity of immediate support strategies for health care personnel during the COVID-19 pandemic; and a lack of evidence-based interventions to adapt health care providers to the new imposed work environment, this study aimed to develop interventions for adapting health care providers to the new situation in the workplace during the COVID-19 pandemic so that health system planners and policymakers may develop and implement action plans with more confidence in their choice of interventions.

METHODS

This policy brief reports practical interventions to adapt health care providers to the new workplace situation during the COVID-19 pandemic in Imam Reza hospital affiliated with Tabriz University of Medical Sciences, Iran. Imam Reza Hospital is one of the largest hospitals in Iran and the reference hospital in the northwest of the country, which comes to this hospital from many neighboring countries. Identifying policy options consisted of two main phases. First, a systematic review was conducted considering (1) the target population (COVID-19 health care workers), (2) intervention (measures taken to change the working environment to adapt health care workers to critical conditions), and (3) the outcomes (reducing psychological, physical, and social effects and coping with a new work situation). A literature review was carried out using databases, including PubMed, Scopus, ProQuest, Science Direct, and Cochrane Library, to collect data. The keywords used were "health care provider," "health care workers," "employee adaptation," "professional adaptation," "climate change adaptation," "human resources management," "managing roles," "COVID-19," "SARS-CoV-2," "critical care," and combinations of the keywords. A manual search was conducted to review a number of reputable journals. In addition, the references of the selected articles were also searched. The search was limited to studies published between December 2019 and January 2021. Articles published in English in this time period whose full text was available and which dealt with the adaptation of health care providers to the new workplace situation during the COVID-19 pandemic or related issues were included. Papers presented at conferences, seminars, and educational papers without paper review processes and papers published in less creditable journals were excluded. After careful study of the full text of the articles, all the

interventions used to adapt health care providers to the new work environment during the COVID-19 pandemic were identified and extracted. Finally, to categorize the interventions and present policy options, seven specialists consisting of one director of an educational and medical center treating patients with COVID-19, two hospital managers, two faculty members of the health policy department, and two health care providers were also consulted by face-to-face interviews to comment on policy interventions according to the criteria of effectiveness, feasibility, appropriateness, sustainability, flexibility, and cost-effectiveness.

Twenty-five interventions were extracted from the literature (Table 1). After consulting the experts, the general classification of interventions and strategies was conducted by

TABLE 1 Provided strategies based on information extracted from a systematic review of the literature

1.	Defining supporting roles for personnel during the pandemic (Barba et al., 2020; Griffin et al., 2020)
2.	Adjusting the work schedule of health care providers based on the workload and specialty of the staff (Billings et al., 2020; Gao et al., 2020)
3.	Forming a multidisciplinary crisis management team (Barba et al., 2020)
4.	Eliminating routine clinical services and all unnecessary activities of personnel (Maben & Bridges, 2020; Sim et al., 2020)
5.	Quick transfer of personnel from areas with extra personnel to areas in need (Sim et al., 2020)
6.	Transferring clinical staff of administrative positions to clinical departments if possible (Hick et al., 2020)
7.	Identifying qualified personnel who have work experience in critical situations, cardiorespiratory, and intensive care and prioritizing their transfer to COVID-19 wards (Thomas et al., 2020)
8.	Planning to increase human resources with the increase in the number of COVID-19 patients (Sim et al., 2020)
9.	Deciding at the hospital level to reduce elective and unnecessary clinical services (Sim et al., 2020)
10.	Reviewing and determining the duties of employees to improve appropriate responses to demands (Hick et al., 2020)
11.	Needs assessment to identify spaces, staff levels, and responsibilities tailored to clients (Barba et al., 2020)
12.	Reaching a collective agreement among the medical team through multiple meetings in the early stages of any action for safe and efficient ward management (Knowles et al., 2020)
13.	Performing prophylactic SARS-CoV-2 tests for health care providers (Denning et al., 2020)
14.	Providing face-to-face or online training for all health care personnel before starting work in COVID-19-related units in the areas of self-protection knowledge and skills, professional knowledge and skills, and preventive psychological counseling (Li et al., 2020; Thomas et al., 2020; Zhang, 2020)
15.	Educating personnel of all units about the characteristics of COVID-19 disease, treatment methods, and care (Irandoost et al., 2020; Sim et al., 2020)
16.	Giving step-by-step training to health care personnel, especially physicians and nurses, in the first stage, to prepare them for rapid learning of ICU work skills and working with new ventilators to care for critically ill COVID-19 patients (Griffin et al., 2020)
17.	Establishment of a 24-h psychological support system for personnel during the COVID-19 pandemic to receive support, counseling, and psychiatric interventions via telephone call or text (Geoffroy et al., 2020; Griffin et al., 2020)
18.	Regular visits of clinical psychologists to COVID-19 units to counsel and review the mental condition of patients and staff and share experiences (Knowles et al., 2020)
19.	Allocation of personnel and the assignment of flexible and scientifically appropriate work shifts according to the pandemic and patients' conditions in the COVID-19 clinical wards (Gao et al., 2020)
20.	Holding managerial feedback sessions with staff to provide an opportunity for health care workers to participate in workplace decision making (Cipolotti et al., 2021)
21.	Holding meetings to transparently and compassionately express leaders' expectations of the staff (Dewey et al., 2020; Hick et al., 2020)
22.	Ensuring staff of an adequate supply of protective materials and equipment, proper allocation of human resources and work schedules, and attention to their sleep and rest at work (Dewey et al., 2020; Hick et al., 2020)
23.	Considering physical and psychological rewards to encourage and support employees (Cai et al., 2020)
24.	Attention and support of the media and people for the medical staff in cyberspace to strengthen their sense of worth and responsibility (Irandoost et al., 2020)
25.	Informing employees on anticipated actions, ongoing crises, and reasons for manager decisions (Hick et al., 2020)

content analysis method, and three policy options culturally and ethically appropriate and compatible with our context and the target population were extracted.

RESULTS

This search yielded 1739 articles. The title and abstract were reviewed independently by two reviewers. Out of 189 related articles, after the complete texts were reviewed and were evaluated by two independent reviewers using the critical appraisal skills program and 178 articles were omitted based on inclusion criteria. Finally, 18 completely relevant studies were reviewed (Figure 1).

A list of the policy options for adapting health care providers to new situations in the workplace during the COVID-19 pandemic, advantages, disadvantages, and implementation considerations of each option is provided in Table 2.

Creating a flexible and efficient system with a capacity for personnel role adjustment

Due to the rapid pace of changes, managing individuals and their roles is critical to adapting to a pandemic and requires rapid role adjustment and strengthening of health care personnel to deal with and treat COVID-19 patients in critical situations. One of the

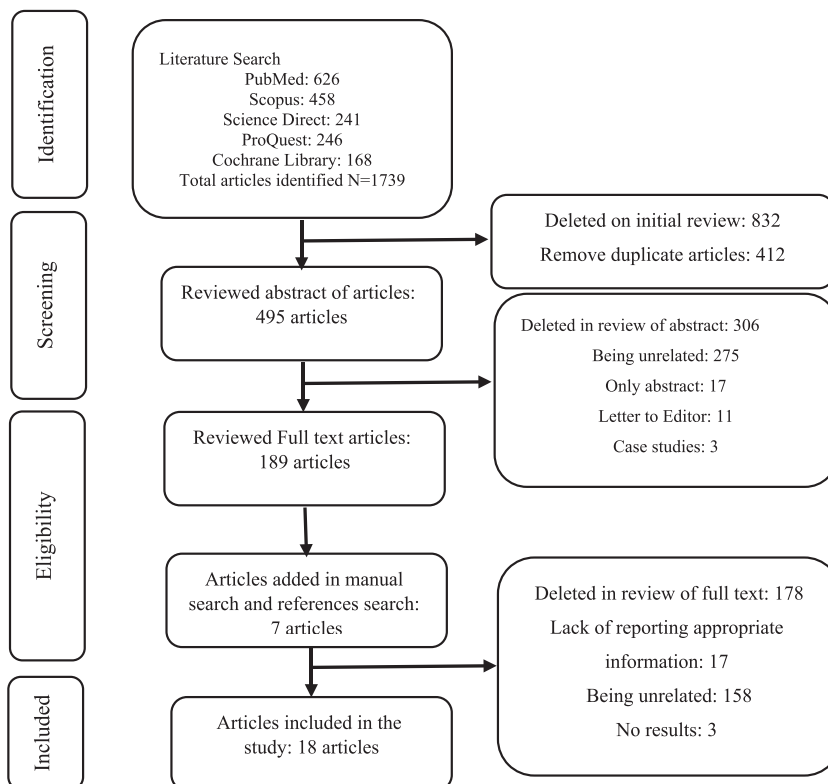


FIGURE 1 PRISMA Flowchart of systematic literature review

TABLE 2 Policy options

Policy option	Creating an activation system of flexible and efficient employees through adjustment of personnel roles	Adequate training of health care personnel about working conditions when treating COVID-19 patients	Creating a supportive and motivational work environment
Advantages	- Improving the efficiency of personnel and increasing their performance - Providing better and more qualified care - Preventing medical errors and adverse outcomes - Providing access to accurate data to guide decision making - Support of personnel for each other in the new critical situation - Reducing staff workload - Increasing the number of employees as COVID-19 cases increase and being responsive to demand in critical situations	- Increasing infection control measures and reducing the risk of infection of personnel in the workplace - Successful provision of safe and effective clinical services - Ensuring the competence of personnel to work in the new conditions and preparing the medical team to care for critically ill COVID-19 patients	- Reducing patients' stress, improving the mental health of staff working in the new work environment, and overcoming fear - Promoting the physical and mental health of personnel and improving the quality of care during the COVID-19 pandemic - Creating a positive mentality in employees about their work and their ability to cope with stress in a new work environment - Preventing fatigue and burnout during the weeks or months of the epidemic - Increasing the motivation of staff to work in a new and stressful environment
Disadvantages	- Limited time to decide how to prepare health care centers to deal with the COVID-19 crisis - Need to increase financial resources - Resistance of personnel to transfer to an unfamiliar and stressful environment - No licensing for elective clinical services	- Lack of access to equipment, training materials, and the Internet - The need for human resources for systematic training of personnel - The need for interdisciplinary coordination and cooperation	- The need for cooperation of psychiatrists and clinical psychologists with the organization - The need for competent employees to work in critical situations - Need for financial resources - Impossibility to hold in-person meetings with staff due to the special conditions of COVID-19
Implementation considerations	- Forming a support team by changing the role of personnel and defining new duties (Barba et al., 2020) - Setting the work schedule of personnel to ensure the presence of young and inexperienced personnel	- Providing a half-day centralized training session on potentially harmful situations and working environment conditions by the center training unit in cooperation with the associated faculties in person or online for all	- Establishing an independent permanent telephone line with the ability to divert to psychiatrists' mobile phones for 24-h staff access to receive psychiatric interventions in case of psychotic symptoms



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| <p>alongside specialized and experienced personnel (Billings et al., 2020; Gao et al., 2020)</p> <ul style="list-style-type: none"> - Establishing effective communication at different levels of clinical and nonclinical staff by creating a team and teamwork (Barba et al., 2020; Catania et al., 2021; Thomas et al., 2020) - Reducing the volume of routine work and eliminating all unnecessary activities of employees (Maben & Bridges, 2020; Sim et al., 2020) | <p>novice front line personnel before starting work in the corona ward (Li et al., 2020; Thomas et al., 2020; Zhang, 2020)</p> <ul style="list-style-type: none"> - Providing training for the personnel of the units based on the specialized field and place of activity in relation to the characteristics of the COVID-19 disease, treatment methods, and course of care (Sim et al., 2020) | <p>(Geoffroy et al., 2020; Griffin et al., 2020)</p> <ul style="list-style-type: none"> - Scheduling daily visits of clinical psychologists to units to consult and review the mental health status of staff and patients and to hold weekly meetings with the optional presence of staff to share experiences (Catania et al., 2021; Knowles et al., 2020) - Setting a flexible shift schedule for clinical unit personnel (Gao et al., 2020) - Direct support of the organization's managers of the staff by holding weekly meetings with the staff in person or online (Heath et al., 2020; Hick et al., 2020) - Encouraging staff by physical and psychological rewards (Cai et al., 2020; Newby et al., 2020) |
|--|--|--|

options suggested by experts was to carefully assess the duties of health care providers and to quickly adjust their roles, including adding reserve personnel and forming new teams to meet increased demand. Evidence shows that health care providers are not prepared enough to handle a large number of clients with COVID-19 disease during peak seasons and are suggested to use volunteer staff from other centers to provide treatment. For this purpose, defining supporting roles for some personnel during the pandemic can be effective. These roles include assisting front-line personnel, providing information to families through the patient portal program, providing COVID-19 PCR (polymerase chain reaction) test results to the attending physician or nursing supervisor to manage hospital beds, identifying team members to follow up patients at home, coordinating care actions with primary care providers and nursing homes, and identifying occupational health personnel to monitor infected staff (Barba et al., 2020; Griffin et al., 2020). On the basis of individuals' workload and specialized fields, health care managers should ensure practical work and adjust the work schedule of personnel by placing mid-level and inexperienced personnel alongside experienced or specialized personnel in the health care units (Billings et al., 2020; Gao et al., 2020). A multidisciplinary crisis management team including health care center managers, nursing managers, preventive medicine and microbiology specialists, and medical, intensive care unit (ICU), and other acute and intensive care unit managers should be formed to come together to discuss existing problems and their solutions for staff to increase communication between various levels of clinical and nonclinical staff to provide the best care (Barba et al., 2020). To increase the capacity of the workforce, in case of an



increase of COVID-19 cases, the routine work of clinical services and all unnecessary activities of personnel such as unnecessary compulsory training, evaluations, and job programs should be eliminated (Maben & Bridges, 2020; Sim et al., 2020). Depending on the different levels of staff, these resources should be transferred quickly from areas with extra personnel to required areas (Sim et al., 2020). If possible, clinical staff in administrative positions should return to clinical care positions (Hick et al., 2020). Staff with the potential to work in high-demand work units related to COVID-19 should be identified, and those who have work experience in emergencies, cardiorespiratory, and intensive care should be given priority for transfer (Thomas et al., 2020).

Adequate training of health care personnel about working conditions when treating COVID-19 patients

Training is the main intervention for solving challenges and responding to emergency crises appropriately and effectively (Gao et al., 2020). Training and empowering staff should be done to increase the tolerance threshold or better adapt staff to new conditions. Physicians, nurses, and other health care providers are stressed about working in new situations because of the fear of illness or transmitting it to family members, so training self-care skills can be effective. A half-day centralized training session based on policies and national guidelines in the form of videos, slides, manuals, and illustrations in person or online in the field of self-protection knowledge and skills, professional knowledge and skills, and preventive psychological counseling should be provided to all health care personnel before starting work in units related to COVID-19 (Li et al., 2020; Thomas et al., 2020; Zhang, 2020). Educational content includes using personal protective equipment, hand hygiene, ward disinfection, medical waste management, sterilization of patient care devices, and occupational exposure management (Geoffroy et al., 2020). To successfully provide safe and effective clinical services, unit personnel must be trained on the characteristics of COVID-19 disease, treatment methods, and ways of care so they may report any abnormal cases. For example, radiology technologists should be familiarized with the radiographic features of COVID-19 to examine all chest x-rays for any evidence of pneumonic changes and contact radiologists to immediately report anything abnormal (Sim et al., 2020). In the first stage, to prepare health care personnel, especially physicians and nurses, quick step-by-step learning of the skills of working in the ICU with new ventilators to care for critically ill COVID-19 patients should be provided (Griffin et al., 2020).

Creating a supportive and motivating work environment

A supportive environment means support is received from officials, senior managers, colleagues, and the organization's operational plans for personnel (Kunasegaran, 2016). In order for the personnel to adapt to work in a new environment in which they are exposed to physical and mental health threats (Knowles et al., 2020), a 24-h psychological support system is required for personnel during the COVID-19 outbreak period through an independent permanent telephone line with the ability to divert to psychiatrists' mobile phones, so that personnel with psychotic symptoms can receive the required counseling and psychiatric interventions by phone or text message (Geoffroy et al., 2020; Griffin et al., 2020). A clinical psychologist should visit the units regularly to counsel and review the mental condition of patients and staff and hold weekly meetings with the optional staff presence to share their experiences (Knowles et al., 2020). Allocation of personnel and the adjustment of

their work shifts should be flexible and scientifically appropriate to the pandemic and patients' conditions in the clinical COVID-19 wards to reduce workload, improve the quality of care, and promote physical and mental health during the COVID-19 pandemic (Gao et al., 2020). Holding manager-staff feedback sessions provides an opportunity for health care workers to participate in workplace decision-making (Cipolotti et al., 2021). Additionally, in these meetings, leaders must express their expectations of staff transparently and compassionately to promote resilience and self-care and reduce staff stress. They inform personnel of the adequate supply of protective materials and equipment, proper allocation of human resources and work schedules, and attention to their sleep and rest at work (Dewey et al., 2020; Hick et al., 2020). To increase staff motivation to work in a new and stressful environment, encouraging and supporting employees by considering physical rewards such as reducing overtime, reducing working hours, and flexible planning and psychological rewards, such as financial support and payment of compensation to the family in case of staff illness or death due to work, are recommended (Cai et al., 2020). To better manage the working environment during the COVID-19 pandemic and to provide a suitable work environment, management accountability and relationships with employees should be strengthened, tasks and resources should be distributed fairly, and payments need to be adequate and timely and depend on the specific mental and physical conditions of each employee.

DISCUSSION

The rapid change in health care centers following the COVID-19 pandemic crisis due to changing procedures and policies by the government and other health institutions and the immediate formulation of new policy decisions has created significant challenges for health care providers to adapt to unfamiliar and stressful workplaces (Hick et al., 2020; World Health Organization, 2020).

Due to the lack of comprehensive and consistent policy interventions to adapt health care providers to the problematic conditions of the new work environment during the COVID-19 pandemic, the current policy document was developed with three policy options based on local and global evidence gathered through a systematic literature review and consultation with national experts. Most of the studies that have been conducted on the adaptation of personnel to the new and challenging work environment in times of crisis have been mainly about the lack of a supportive work environment (Catania et al., 2021; Denning et al., 2020; Heath et al., 2020; Irandoost et al., 2020). A supportive environment requires support from the organization officials, senior managers, colleagues, and operational plans. Therefore, organizational structure, culture, leadership style, rewards, and benefits help employees adapt to a new work environment (Kunasegaran, 2016). Other studies have mentioned creating a crisis management team, that is, a support team with clear plans and flexible employees (Barba et al., 2020; Griffin et al., 2020; Hick et al., 2020). Chemali et al. (2019) showed that creating support groups to provide an environment where people freely share their information and experiences effectively reduces burnout and helps people adapt to the workplace (Chemali et al., 2019).

Increasing the number of employees and training personnel is also mentioned as an intervention in this field (Sim et al., 2020; Thomas et al., 2020). Timely, thorough, realistic, and updated training that prepares health care workers for anticipated exposures optimize safe task performance and reduces the stress of uncertainty (Brooks et al., 2018). In a study, Ghannam et al. (2020) reported the effect of stress management training as a 1-day workshop on burnout of health care providers (Ghannam et al., 2020). Darban et al. (2016) also mentioned the effect of communication skill training as a 2-day workshop on burnout



(Darban et al., 2016). Thus, upgrading flexibility skills, that is, changing workplace dynamics, communication skills, and problem-solving skills through training significantly increases employee adaptability to a new work environment (Muema, 2019).

Four strategies have been proposed to prepare different groups of health care personnel to work in the COVID-19 pandemic crisis: (1) An intensive care medical team should be created for the treatment of patients admitted to the ICU using intensive care experts and specialists from all fields, (2) results of research conducted by faculty members on COVID-19 should be provided to clinical service providers, (3) nursing staff should be trained in working skills necessary for critical situations and intensive care units, and (4) nonclinical staff of units related to the COVID-19 patients should be appreciated and supported (Griffin et al., 2020). Adaptation should occur when there is a change at the organizational level, like changes in job descriptions, goals, values, and technological advances, or when one feels that change individually (Muema, 2019). Therefore, to empower health care providers while maintaining the system's benefits and creating a solid and sustainable health care system to respond quickly to unpredictable and ever-changing workplace challenges, policies need to be tailored to new working conditions and the staff support necessary to manage the COVID-19 pandemic crisis.

Limitations and future studies

In this study, only texts published in English were included. Thus, texts in other languages and unpublished data on the adaptation of health care providers to the new work environment during the COVID-19 crisis and pandemic were not reviewed. In addition, in the present study, due to the possibility of infection through infected individuals and the difficult working conditions of health care providers during the COVID-19 crisis, it was impossible to explore policy options through focus group discussion with experts in person.

Future research is suggested to examine the practicality and effectiveness of the policy options proposed in the present study and prioritize them in terms of efficiency and effectiveness.

CONCLUSIONS AND POLICY IMPLICATIONS

The interventions should be practical, up-to-date, evidence-based, targeted, flexible, and context-specific to adapt health care providers to new situations in the workplace during the covid-19 pandemic. Creating a flexible system by adjusting personnel roles, training health care providers, and creating a supportive and motivating work environment are the main policy options presented in our study. While highlighting each intervention's potential benefits and challenges, the identified interventions in our study provide key policy directions for adapting health care providers to the new workplace conditions during the COVID-19 pandemic and other future crises.

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CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

ETHICS STATEMENT

The data, models, and methods used in this study are not proprietary and no human participants were involved in this study.

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