Coronavirus and Its Impacts on Health Workers Retention: A Systematic Review and Meta-Synthesis

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Abstract

Background: The present study aimed to determine the prerequisites and requirements for retention of human resources during the Covid-19 disaster. It was tried in this study to systematically review the challenges and prerequisites, strategies, and measures related to the retention of health workers during the disaster.

Methods: This is a systematic review and meta-synthesis of all the articles related to the factors affecting the retention of human resources during the Covid-19 disaster. The articles were searched using the keywords Retention, Human resource, and COVID-19 in the following databases without a time limit: PubMed, Scopus, and Web of science. To select the studies, the titles, abstracts, and full texts that complied with the inclusion criteria of the present systematic review were examined, and the 226 preliminary results and abstract were screened. Finally, 23 full texts were obtained, and regarding the type and nature of the materials extracted from the studies, a meta-synthesis was used to analyze and aggregate the results of the systematic review.

Results: The 23 articles included in the systematic review and meta-synthesis were reviewed, and the effects of the Covid-19 disaster on the healthcare staff and the retention strategies were considered as the main themes of the study. In this regard, stigma and violence against the staff, burnout and stress, increased staff workload, acquisition of communication skills, employees' mental and physical health, employee safety during disaster, staff mobilization to assist the current forces, expansion of cyberspace infrastructures, and motivational-health incentives were selected as codes.

Conclusion: Retention or non-retention of the personnel during or after a disaster can be caused by the multifaceted effects of the crisis on people. Thus, a combination of several appropriate strategies should be used to respond to it in order to reduce the adverse effects of the disaster. Also, aligning the personnel can help using their synergistic power to face and respond to the challenges ahead.

Background

Retention is one of the most important human resource management tasks. If human resource management acts well in all stages of employment and selection but fails to retain, it will lead to a waste of time and energy and will impose costs on the organization(1, 2). Hence, it seems crucial for organizations to take measures related to the development and implementation of the strategies for attracting and retaining human resources(3). Compared to the manufacturing sector, this is more important in the service sector including education and health, where service providing is based on human resources(4). Health care organizations are among the most important ones in communities, and effective provision of health services will not be possible without the presence of experienced, efficient, effective, and accessible health professionals(5, 6). Regarding the shortage and unfair distribution of health workers, retaining and promoting them is one of the important priorities of countries' health systems(3).

There are special requirements and measures needed for the retention of human resources. Retention includes systematic and effective efforts of employers to create appropriate environments for current employees in order to encourage and motivate them to continue working effectively. In fact, retention of decent and efficient workforce creates an organizational competitive advantage over competitors(7, 8).

The importance of human resource retention is obvious to all, but what makes it more special is the retention of human resources in disasters. There are three main words by which disaster can be defined: threat, time, and surprise, and disasters are classified into severe, moderate, or weak based on the degree to which any of the three abovementioned words appear in their occurrence. High-threat disasters occurred in short periods of time with low degrees of surprise are considered acute, just like the outbreak of a disease that leads to confusion, anxiety, and excitement of decision-makers and human resources(9, 10).

Retention of human resources, especially in the health sector, is more important in disasters than in any other time, because an organization's human resources should not only work against disastrous threats such as disease outbreaks, but also have to encounter new underlying problems(11).

Flexibility in implementing staff deployment policies in the occurrence of disasters may increase system flexibility and help retain health workers, which in turn can help ensure health service coverage in disadvantaged areas(12). This study aimed to determine the prerequisites and requirements for the retention of human resources during the Covid-19 crisis and to systematically review the challenges and prerequisites as well as the strategies and measures related to the retention of health workers during the epidemic.

Methods

The present study is a systematic review and meta-synthesis of all the articles on human resource retention during the Covid-19 disaster. The main research questions addressed the strategies for retaining human resources during the disaster and the effects of the disaster on human resources retention. To ensure the high quality of the report, this study was conducted based on the Systematic Review Preferences (PRISMA) guidelines.

Search Strategy:

Initially, the thesauri such as Mesh and Library of Subject Headings were used to extract appropriate keywords for expressing the intended concepts. Rapid searches were performed to enrich the keywords, and titles, abstracts, and bibliographies of related articles were reviewed. The following keywords were also used to search for the articles: Retention, Human resource, and COVID-19. The synonymous keywords used in this study are attached in the appendix section.

To develop a search strategy using the words in the table above, Boolean operators were used so that all the words in each row were merged using "OR" and then the rows were merged using "AND". To increase

the search sensitivity, each pair of rows was merged as well. The next step was to search the databases. Authentic foreign databases, including PubMed, Scopus, and Web of science, were searched, along which a manual search was also performed. In this regard, backward tracing and forward tracing were performed. To this end, backward tracing and forward tracing were performed. The former was done by reviewing the bibliography of the articles included in the study and selecting the related studies from among them, and the latter was conducted by reviewing the citations of the studies included in the systematic review and selecting the related ones from among them. The search strategy is attached.

Inclusion and Selection Criteria:

To select the studies, the titles, abstracts, and full texts of the ones whose abstracts met the inclusion criteria of the present systematic review were investigated, and all the evidence found was entered into the EndNote software to document the search process. In this part of the research, duplicate articles were identified and excluded from the systematic review by comparing the titles, authors, and years of publication.

The inclusion criteria at this stage were the content relationship with the research objective and questions, publication in English, authenticity of the study, and the full text of the article, and the exclusion criteria were as follows: lack of access to the full text of the article, non-qualitative research approach, and the irrelevancy of the topic to the retention of human resources during disasters and epidemics. After excluding the totally irrelevant articles, the full texts of the relevant ones were prepared and provided to two team members. The excluded studies along with the reasons for their exclusion were archived. Due to the novelty of Covid-19, no time frame was considered for the systematic review, and all the retrieved articles were reviewed through a search strategy.

The data collection was done experimentally using a pre-determined form before the data extraction stage. The form included bibliographic information (researcher's name and research year), some brief data on the methodology of each research, data collection tools, the study population, and the most important findings and results of each study. To ensure the validity of the form, the initial checklist was reviewed by a number of colleagues doing the systematic review and was used as a pilot to collect the data from five articles. The form was then re-evaluated and finalized.

To ensure the reliability of the data collection process, joint meetings were held by two data collectors to agree on the review of the articles and the data collection process. In cases of disagreement between the two data collectors, a third member of the team judged. Overall, there was about 94% agreement. The quality of the selected studies was measured using the JBI checklist(13) and the quality articles were selected to be systematically reviewed. A total of two studies were excluded at this stage. The data were extracted by 2 individuals blind to the names of the authors, institute, and journals. The data extraction form was designed in the Excel software and then transferred to Word. In the initial search, 226 articles were found, and after excluding the duplicates, 179 articles remained for review, of which 144 were identified as irrelevant and were excluded. (Search process in Figure 1).

Meta-synthesis:

To perform the meta-synthesis in this study, the Thomas and Harden's thematic synthesis approach was used(14). At this stage, the authors independently read and coded the articles line by line and identified the key phrases and concepts in the sentences. Several joint sessions were then held to re-read the codes in order to make the authors' minds closer to a common understanding of the texts. Next, the described themes were organized and formulated, following which more general categories were created based on the similarities of the extracted codes. This was repeated several times.

Results

The initial electronic search of the entire database resulted in finding a total of 226 articles, of which 23 full texts were selected and reviewed after the screening and qualitative evaluation process,

Description of Studies:

The details of the studies included in this review are presented in tables 2 and 3. (Tables are attached)

The 23 articles included in this systematic review and meta-synthesis were reviewed, and the effects of the Covid-19 disaster on the employees and the retention strategies were considered as the main themes of this study. Table 4 shows the relationships between the themes, codes, and sub codes. (The complete table4 is attached.)

1) Effects of Covid-19 on the staff

Violence and stigma against the staff, burnout and stress, and increased workload are some of the effects of the Covid-19 disaster on hospital staff, which increases the rate of quitting.

Violence and stigma against the staff

In general, hospital staff is facing a variety of problems during the disaster, including increased violence, which may lead to the rejection and isolation of health care providers from the community. On the other hand, an increase in the patient mortality rate will increase blaming the staff by the community, and in some cases, they are even subject to inappropriate behaviors and so-called bullying by the patients' families.

Burnout and stress:

Healthcare providers are battling the deadly Covid-19 virus. This unprecedented situation has created many sources of emotional distress for the staff. In other words, many health workers identify with the patients and their companions, and as the mortality rates increase or the patients' conditions deteriorate, they considered the care provided to be ineffective and suffer a lot of psychological stress. On the other hand, they are very scared and worried because they are facing with an unknown disease of which they do not have sufficient information and are at risk of getting infected at any moment due to frequent

exposure to it or causing the disease to be transmitted to their families and killing them. In addition, health care providers are concerned about being isolated due to the disease and losing their credibility in providing care to others. Furthermore, the great psychological pressure on the health workers in hospitals, especially the emergency department and ICU personnel, has increased anxiety, depression, insomnia, denial, and anger, and they are all experiencing the fear of losing their colleagues at any moment.

Increased employee workloads

The Corona disaster has put a lot of work pressure on the health workers for a variety of reasons, including staff shortages, equipment shortages, and increased workloads on others. Hospital staff is at risk due to the shortage of safety equipment. The biggest misfortune is probably the shortage of personal protective equipment for the first-line health workers, and they have sometimes even reused disposable equipment. There are not enough masks, protective clothing, goggles, etc. On the other hand, the shortage of staff to work in the related departments has increased the pressure on the personnel and has increased their workload as well.

2) Retention strategies

Acquiring communication skills, paying attention to the employees' mental and physical health, focusing on the employees' safety during the disaster, mobilizing the employees to help the existing forces, expanding cyberspace infrastructures, and using motivational-health incentives are among the strategies that can be used by senior managers during the disaster in order to retain the personnel.

Acquire communication skills:

During the Covid-19 disaster, health care providers need to acquire extensive communication skills to communicate with the patients and their companions, to work in multi-specialty teams, and to gain psychological knowledge.

Employees' Mental and Physical Health:

The mental and physical health of the frontline and at-risk healthcare staff must be prioritized, and online psychological counseling classes can be provided in order to prepare them before disasters. In addition, strategies such as sending positive energy text messages, making phone calls with the staff to boost their morale, cheering up the hospital environment, having energetic head nurses and supervisors, and generally boosting the morale of the people in the workplace are various options to prepare the employees to encounter a disaster. On the other hand, the use of the floating force plan can also improve the mental health of the staff, so that any nurse who feels uncomfortable can be transferred to other sections after reporting to the head nurse and the nursing department.

Attention to employee safety:

This epidemic has encountered all health workers to a strange and unknown world, and sharing their experiences can open the doors of this unknown world to others. The experiences of the employees that are more frequently exposed to the disease can be used to aware other healthcare providers and facilitate self-care. In addition, due to the high infection caused by the virus, the health workers are at a serious risk of the disease. Protective clothing, gloves, goggles, hand sanitizers, cleaning agents, gowns, and headgears are essential items that must be adequately stocked. It is also recommended to use ice jackets to lower the staff's body temperature, to move the staff by the office car and not to use public transportation, and to monitor the arrangement of the isolation rooms and the use of the equipment in order to increase the safety of the staff. On the other hand, creating an identification system for the staff allowed to enter medical centers and preventing other staff from entering the wards, and also periodic rotation of the frontline nurses using a hybrid model in which novice and skilled employees are put together in a working group in order for the front-line nurses to have enough rest while ensuring the quality of services and safety are of great importance.

Mobilizing the staff to assist the current forces:

Using prepared forces with strengths to help the current forces during the disaster is a good solution. However, the criteria such as good physical health and proficiency in basic nursing techniques (injection, oxygen ventilation, and condition monitoring) must be considered when entering the forces. Issuing permits for healthcare providers in a short time, early graduation of medical students, re-employment of retired physicians, transfer of the staff from low-referral wards to corona sections, using the private sector personnel, employing interdisciplinary forces such as health students, and team formation are the measures that can be taken to mobilize the staff and assist the current forces.

Expanding cyberspace infrastructures:

Online medicine through the use of video conferencing and virtual meetings during the disaster will expand the cyberspace infrastructures and retain human resources by increasing the staff's awareness and reducing their stress.

Motivational-health incentives:

Providing incentives such as paying extra as a risk payment to healthcare providers during the disaster, providing free internet services from work to home, offering childcare and food coupons to the employees, and providing supplemental life insurance to all the employee at risk, virtual and in-person appreciation of the staff with good performance during the disaster, reducing the length of service for the unemployed staff, and establishing incentive day-offs will reduce stress and increase comfort in the workplace and will ultimately increase the well-being of the individuals and the community. This in turn will affect the retention of human resources in the workplace during the disaster.

In the end, reviewing and comparing the results of the studies included in the present research on the effects of Covid-19 on the health workers and the strategies appropriate to their retention during the

disaster led to the extraction of the following conceptual framework.

Discussion

Having unprecedented prevalence in the world, Covid-19 has affected almost all medical and health infrastructures, and human forces which are among the main functional components of health systems have not been left unaffected. Given that failure to plan in time and to prepare, organize, and provide integrated leadership to respond to such effects will have irreparable consequences for human force management in the short and long term, especially for retaining the employees, reacting to these effects will be possible only in the form of designing appropriate strategies(15).

In this study, psychological problems and injuries during the disaster were identified as the most important individual and social effects on the health personnel. The respondents talked about the psychological impacts of the epidemic on various aspects of their lives more than worrying about their physical safety and getting infected with the disease(16).

Long working hours in an environment full of viral care unknowns and also social distancing separate some personnel from their usual social support networks and force them to provide care services in isolation(17). On the other hand, the burnout caused by the stress not only has personal harm but also affects the quality of service delivery and may cause serious problems for patient management(18).

Although identifying the personnel's needs during the disaster and developing appropriate strategies to respond to these needs in a timely manner are among the main tasks of organization managers, poor human resource management in the health sector compared to other sectors in different countries can be a major obstacle to applying the proposed strategies and ultimately the retention of human resources in this sector. On the other hand, medical personnel should try to reduce and control their stress through physical and mental health strategies(15).

While the corona virus is increasingly spreading and sending a large numbers of patients to hospitals and medical centers, the medical staff with a heavy workload is struggling with issues such as workforce shortages as well as shortages of personal and hospital medical equipment. Ignoring these problems will make the health staff more vulnerable and if the situation continues, their safety and mental health will be challenged. In the meantime, the world governments are responsible for developing proper policies to provide adequate funding to health system leaders so that they can meet their legal obligations to supply basic resources(19).

One of the proposed strategies resulted from the findings of the studies to compensate for the shortage of human resources and reduce their workload is the use of volunteer forces and mobilization of professional forces from other organs and sectors less involved in the epidemic, so that a combination of the active personnel and float rotation will not only cause the health workers to rest, but the quality of services will also be improved(20).

The findings of this study showed that about 70% of the surgeons in some parts of the UK had a shortage of protective equipment in hospitals in the past month. Furthermore, 39% of the surgeons in Scotland and 36% in the north-west of England said that they were facing such shortages(21).

Thus, in order to compensate for the shortage of personal and medical equipment, it is appropriate to predict the provision of some equipment as a strategic reserve to deal with disasters so as not to be shocked by sudden system deficiencies.

The strategies to promote behavioral skills and the programs to improve employees' mental health before and after disasters are the most effective ways to deal with employees' stress during disasters. Improving the psychological knowledge of the staff can help them to be patient in dealing with the problems and to continue to provide services while maintaining composure. The ability to work in multi-specialty teams that are formed in times of disasters to respond to all dimensions of the disasters requires effective training that must be considered as training needs in the personnel's programs. Many fears and concerns of the personnel can be addressed by developing a comprehensive disaster plan in which environmental safety, experience sharing, safety equipment, support facilities, and designing innovative systems are addressed. On the other hand, a variety of the staff's concerns during a disaster must be responded with sustainable financial support and incentives so that they can perform their duties with the least worries.

More than anything else, Covid-19 has led human societies to digitalization and, in fact, to the virtual world. Given that a significant part of our daily communications is related to office work, the expansion of virtual infrastructures including an increase in the bandwidth and speed of Internet access, the use of telemedicine to treat the disease and reduce unnecessary communications with medical and support staff, and holding online meetings will be effective on reducing the risk and increasing the staff's confidence.

Some studies stated that the highly transmissible nature of the corona virus had caused the public to view the health care workers as a symbol of disease transmission(22). Rejection from the community increases the isolation of the staff outside the workplace. On the other hand, they try to withdraw from the community and family for the fear of being a carrier. All of these factors can increase their psychological problems. Therefore, using the strategies that may reduce stress and promote social tolerance will also be effective in reducing stigma.

Conclusion

Considering that most of the studies included in this research were the reports and views of the people involved, it seems that more extensive research is needed to be conducted on retention in order to further reflect the issue. Combining the results of quantitative studies with qualitative findings can also confirm the existing effects and justify the reasons.

In fact, retention or non-retention of the personnel during or after a disaster can be caused by the multifaceted effects of the crisis on people. Thus, a combination of several appropriate strategies should be used to respond to it in order to reduce the adverse effects of the disaster. Also, aligning the personnel can help using their synergistic power to face and respond to the challenges ahead. Certainly, benefitting from the discussed strategies can be effective in appropriate time and can be variable according to the prevailing organizational culture and the social context of the health system.

Declarations

Abbreviations: not applicable

Declarations: not applicable

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Authors' contributions:

AH: Conceptualization, Methodology, Investigation, Data Curation, Writing - Original Draft, Writing - Review & Editing

LA: Data Curation, Formal analysis, Writing - Original Draft, Writing - Review & Editing, Project administration

SN: Project administration, Conceptualization, Review & Editing

ASH: Conceptualization, Review & Editing

AM: Investigation

MSH: Data Curation

MH: Data Curation

ZZ: Conceptualization, Methodology, Formal analysis, Investigation, Data Curation, Writing - Original Draft, Writing - Review & Editing

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Figures

Figure 1

Search process

Figure 2

Effects of Covid-19 on the staff

Figure 3

Retention strategies

Figure 4

Conceptual framework

Supplementary Files

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