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The Role of Crisis Challenges in Healthcare Services in the Southern Governorates of Palestine: Al-Shifa Medical Complex as a Case Study

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Abstract:

This study aimed to examine the role of challenges resulting from successive crises on the delivery and performance of healthcare services at the Al-Shifa Medical Complex. The research was conducted within exceptional and complex circumstances that significantly affected the healthcare system, including the Great March of Return, the COVID-19 pandemic, and the 2023 Gaza War. These overlapping crises imposed substantial pressure on healthcare institutions and healthcare providers, influencing both service availability and the quality of medical care delivered to patients. A cross-sectional study design was adopted due to its suitability for assessing the impact of crisis-related challenges on healthcare performance within a defined timeframe. The study was conducted at Al-Shifa Medical Complex, the largest governmental healthcare facility in the Gaza Strip. The study population consisted of healthcare providers working in different clinical and supportive departments within the medical complex. A convenience sample of 135 healthcare professionals participated in the study, including 45 physicians, 9 pharmacists, 61 nurses, and 20 paramedical staff members. Data were collected using a validated structured questionnaire developed by the researcher to measure several key dimensions, including shortages of medical supplies and medications, occupational stress, professional burnout, and department overcrowding, as well as their impact on the quality of healthcare service delivery. The findings demonstrated a significant negative impact of crisis-related challenges on healthcare services. Severe shortages of medical resources and the large influx of patients increased occupational burnout among healthcare providers and reduced their capacity to deliver optimal care. The study recommends strengthening healthcare system preparedness through improved resource allocation, effective emergency planning, and psychosocial support programs for healthcare workers.

Keywords: Crises, Healthcare Challenges, Healthcare Services:of , Al-Shifa Medical Complex, Gaza Strip.

1.1 Introduction

The healthcare sector in the Gaza Strip has undergone one of the most severe and complex periods in its contemporary history due to recurrent conflicts and protracted crises. These include the wars of 2008, 2012, and 2014, the Great March of Return protests, the COVID-19 pandemic, and most recently the 2023 war (Pub Med Central, 2025). Collectively, these successive emergencies have exerted unprecedented pressure on the healthcare system.

As a result, the health sector has faced extensive damage to infrastructure, critical shortages of medical supplies and qualified personnel, disruptions in essential supply chains, and a substantial increase in humanitarian and healthcare demands (UNRWA, 2024). Hospitals have been among the institutions most severely affected. In particular, Al-Shifa Medical Complex—the largest and primary referral hospital in Gaza—has carried a disproportionate burden. It has served as the principal emergency and trauma center during mass-casualty incidents while simultaneously coping with shortages of medical staff, fuel, and essential medications, in addition to partial destruction of its facilities under conditions of a near-total blockade (Hassan, R., et al., 2022).

Despite these extraordinary challenges, healthcare professionals at Al-Shifa Medical Complex have demonstrated remarkable resilience and professional dedication, continuing to provide emergency and life-saving medical services under highly constrained and unsafe conditions. Medical teams have been subjected to overwhelming workloads, persistent security threats, and significant psychological and physical stress resulting from the continuous influx of casualties and extended working hours. Furthermore, damage to critical infrastructure—particularly electricity, water, and sanitation systems—has significantly undermined infection control measures and compromised patient safety.

The experience of Al-Shifa Medical Complex during these crises constitutes an important case for understanding the impact of prolonged conflict on healthcare service delivery and the resilience of healthcare systems and providers. It also highlights the urgent need for systematic documentation and rigorous analysis to support future health emergency preparedness and effective crisis management in conflict-affected settings (MOH, 2018).

1.2 Research Problem

Healthcare systems operating in conflict-affected environments are subjected to severe, prolonged, and multidimensional pressures that significantly compromise their operational capacity and the quality of healthcare service delivery. In the Gaza Strip, decades of political instability, recurrent military confrontations, and the systematic deterioration of health infrastructure have generated a persistent crisis environment in which healthcare professionals are compelled to provide essential medical services under extremely challenging conditions characterized by chronic shortages of medical resources, elevated security risks, excessive workloads, and cumulative psychological strain.

Within this context, Al-Shifa Medical Complex, as the largest and most central tertiary referral hospital in the Gaza Strip, has played a pivotal role in the emergency healthcare response, particularly during the 2023 war and its ongoing humanitarian consequences. Healthcare professionals working at the complex have encountered unprecedented professional, administrative, and psychological challenges that may substantially influence their work performance, clinical decision-making capacity, coping mechanisms, and ultimately the quality and safety of healthcare services delivered to patients. These challenges extend

far beyond routine occupational stress and instead represent the compounded effects of prolonged exposure to crisis conditions.

Despite the indispensable role of healthcare professionals in sustaining healthcare delivery during armed conflicts and humanitarian emergencies, there remains a noticeable scarcity of empirical and context-specific research—particularly within Palestinian and Arabic academic literature—examining the relationship between crisis-related challenges and the professional performance of healthcare providers in prolonged emergency contexts. Much of the existing literature tends to focus on the physical destruction of health infrastructure or the availability of medical services, while comparatively limited attention has been directed toward the human dimension of healthcare systems, specifically the performance, wellbeing, and resilience of healthcare professionals operating under sustained crisis pressures.

This gap in the existing evidence base constrains the ability of policymakers, health authorities, and hospital administrators to develop effective crisis management strategies, psychosocial support mechanisms, and human resource policies that adequately respond to the realities of healthcare delivery in conflict-affected environments. Accordingly, the research problem arises from the need for a systematic and evidence-based investigation into the nature and magnitude of crisis-related challenges encountered by healthcare professionals at Al-Shifa Medical Complex, as well as an examination of how these challenges influence their professional, administrative, and psychological performance during periods of war and prolonged humanitarian crises.

Therefore, the central research question guiding this study is:

1.3 Importance of the Study

The significance of this study stems from its scientific, practical, and humanitarian relevance within the context of protracted crises and armed conflict in the Gaza Strip. Recurrent wars, compounded by a prolonged blockade and large-scale emergencies such as the Great March of Return and the COVID-19 pandemic, have placed extraordinary and sustained pressure on the Palestinian healthcare system. These conditions have profoundly affected healthcare professionals, particularly those working at Al-Shifa Medical Complex—the largest and most central tertiary referral hospital in Gaza—which has consistently borne the greatest burden during periods of mass casualties and healthcare system disruption , So From a scientific perspective, this study addresses an important gap in Palestinian and Arabic academic literature concerning the impact of prolonged crises and armed conflict on the professional performance of healthcare professionals in conflict-affected and resource-constrained settings. Despite the pivotal role of healthcare workers in sustaining life-saving services during emergencies, limited empirical research has systematically examined how crisis-related challenges influence their professional, administrative, and psychological performance By focusing on Al-Shifa Medical Complex as an empirical case study, this research provides context-specific evidence that contributes to advancing the theoretical and practical understanding of crisis management and workforce performance dynamics within healthcare institutions operating under extreme humanitarian conditions. Furthermore, the study highlights the critical importance of strengthening institutional resilience and supporting healthcare professionals who operate at the frontline of medical response during prolonged emergencies.

1.4 Research Objectives

1.4.1 General Objectives

The aim of this study is to determine the Role of crisis challenges on the Healthcare Services:of at Al Shifa Medical Complex in the Gaza Strip.

1.4.2 Specific Objectives

This study aims to assess the level of crisis-related challenges faced by **healthcare professionals** at Al-Shifa Medical Complex in the Gaza Strip and to evaluate the level of their **professional performance** in delivering healthcare services under crisis conditions. Furthermore, the study seeks to examine the impact of crisis-related challenges on the **professional performance of healthcare professionals** at the complex. In addition, the study aims to determine whether there are statistically significant differences in the perceptions of crisis-related challenges among healthcare professionals based on selected demographic variables, including gender, age, educational qualification, years of professional experience, and job title.Research questions The main question addressed in this study what is the Role of the crisis's challenges on the Healthcare Services:of at Al Shifa Medical Complex in the Gaza Strip? This question is divided into the following sub questions:

1. What is the level of crisis-related challenges faced by at Al-Shifa Medical Complex in the Gaza Strip?
2. What is the level of Healthcare Services:of at Al-Shifa Medical Complex in the Gaza Strip?
3. What is the Role of crisis-related challenges on the Healthcare Services:of at Al-Shifa Medical Complex in the Gaza Strip?
4. Are there statistically significant differences in respondents' average opinions on crisis-related challenges attributable to personal variables (gender, age, educational qualification, years of experience, and job title

1.5 Are there statistically significant differences in respondents' average opinions on Research Hypothesis (With Dimensions)

Main Hypothesis

H_0 (Null Hypothesis):

Crisis-related challenges, in their combined dimensions, have no statistically significant effect on the professional performance of healthcare professionals at Al-Shifa Medical Complex in the Gaza Strip.

H_1 (Alternative Hypothesis):

Crisis-related challenges, in their combined dimensions, have a statistically significant effect on the professional performance of healthcare professionals at Al-Shifa Medical Complex in the Gaza Strip.

1. **Border study :** Te study focuses on **,** including **doctors, nurses, pharmacists and paramedical.**
2. **Placed Applied Boundary**

The study is limited to Al-Shifa Medical Complex in the Gaza Strip.

3. **Topically Boundary**

The study examines the Role of the crises challenges on the healthcare provider performance.

4. **Timely Boundary**

The research covers the period from 2023 to 2026.

1.6 Research Variables and Models

The study variables were defined as follows:

1. **Independent Variable (Role Crises Challenges)**

- **Resource Limitations**: Availability of staff, equipment, and supplies.

- **Psychological Stress**: Role of stress and burnout on .
- **Training and Preparedness**: Effectiveness of training programs for crisis management.
- **External Collaboration**: Partnerships with NGOs or other organizations during crises.

2. Dependent Variable (Healthcare Services)

- **Quality of Care**: Patient outcomes, adherence to treatment protocols, and overall healthcare delivery effectiveness.
- **Work Efficiency**: Response times and productivity metrics of healthcare services.
- **Patients Satisfaction**: Feedback from patients regarding their care experience.
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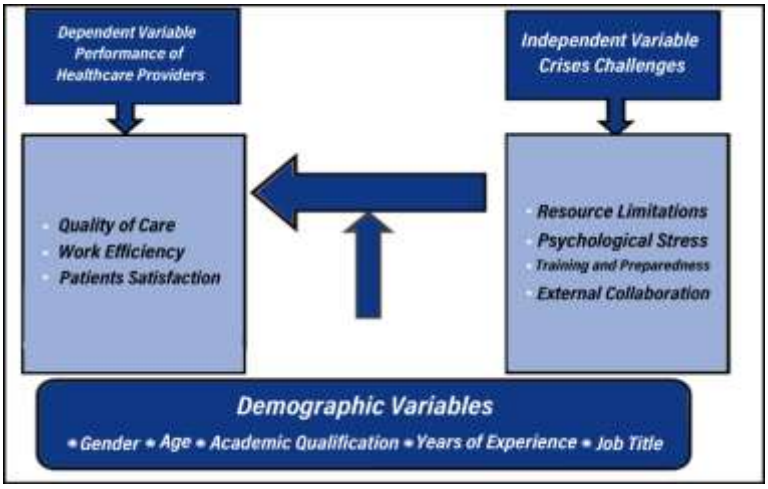

Fig 1.1: The conceptual frame work of the study
designed by the researcher in (2023)

1.7 Research Terminologies

1.7.1 Scientific Definitions of Crises Challenges

- Challenges of crises are a set of interconnected factors that hinder the ability of institutions, states, or societies to respond quickly and effectively to unexpected disruptions. These factors include difficulties in decision-making, a lack of accurate information, time pressure, the overlap of economic, social and political dimensions as well as the increasing complexity resulting from globalization and the interdependence of modern systems (Hermann, Charles F. (2024).
- Crisis challenges related to decision-making are represented by the difficulty of making quick and accurate decisions amid unclear information, time limitations, and psychological and organizational pressures (Boin A., T Hart, P., Stern, E., & Sundelius, B. 2023).
- Hospitals face multiple challenges during crises including limited medical resources, increased patient load, staff shortage, disrupted supply chains and administrative difficulties (WHO,2020).

1.7.2 Operational definitions of Crises Challenges

- Crisis challenges from the communication perspective are those resulting from weak communication channels, the spread of rumors, conflicting messages, and the difficulty of delivering accurate information to stakeholders in a timely manner (Coombs, W. T., 2022).

1.7.3 Definitions of the Healthcare Services:of

- Healthcare provider Healthcare Services:involves assessing the practices of healthcare professionals, including their approaches to medication prescribing, patient counseling, and the overall

effectiveness of their patient care management. This evaluation is essential to ensure that meet the necessary standards in delivering quality care and improving patient outcomes. Through such assessments, healthcare systems can identify areas for improvement and enhance the Healthcare Services:of (Wisdom Library,2024).

-Literature Review and Previous Studies

This chapter aims to establish the theoretical foundation of the study by reviewing the key concepts related to crisis management and crisis challenges, as well as the Healthcare Services:of . It also highlights the importance and dimensions of each variable. In addition, the chapter presents a critical review of relevant previous studies in order to identify research gaps and support the conceptual framework upon which the current study is based.

2.1 The concept of the crises management

- **Crisis management is defined as the process of preserving the organization's assets and properties, maintaining its ability to generate revenue, and protecting its personnel and employees from various risks. It involves the responsibility of managers in this activity to identify potential risks and attempt to avoid them or mitigate their Role on the organization if complete avoidance is not possible (Marefa.Org, 2025).**
- Crisis management in management is defined as the process that involves planning, preparation, and handling unexpected or emergency events that may threaten the stability of the organization or its ability to operate effectively (Alkhateeb, T. T. (2017).
- Crisis challenges are administratively defined as the set of difficulties and pressures that management faces before, during, and after a crisis which delay its ability to make rapid and effective decisions, coordinate resources, communicate with participants and maintain business continuity among uncertainty, lack of information, time constraints, and heightened risks **Coombs, W. T. (2019).**

2.2 The elements of crisis management and its importance

Crisis management is defined as a systematic process that involves planning for, preparing to, and responding to unexpected events that may threaten the stability, operations, or survival of organizations. The elements of crisis management represent the core pillars that enable organizations to anticipate crises, reduce their negative Roles, and ensure effective response and recovery. These elements can be outlined as follows **Crisis Identification** refers to the early recognition of events or conditions that have the potential to escalate into a crisis. Early identification is essential, as organizations cannot address risks or threats unless they are first recognized. Effective crisis identification allows management to initiate preventive measures and activates preparedness mechanisms in a timely manner.

Post-Crisis Evaluation involves systematically assessing how the crisis was managed, identifying strengths and weaknesses in the response, and extracting lessons learned. This element is particularly important because every crisis represents a learning opportunity that can enhance organizational preparedness and improve future crisis management practices (Trust Community, 2025).

2.3 Crises Management Problems and Their Solutions

Despite the importance of crisis management, organizations often face several challenges that hinder effective crisis handling. One of the most significant problems is **delayed crisis detection**, where the failure to identify early warning signs leads to increased losses and limited response options. To address this issue, organizations should establish continuous risk monitoring and analysis systems, in addition to training employees to recognize potential warning indicators Another common problem is **weak crisis**

planning, as the absence of clear and comprehensive plans often results in confusion and disorder during crisis situations, thereby exacerbating negative outcomes. This challenge can be mitigated by developing detailed emergency and contingency plans that cover various potential scenarios, regularly updating these plans, and reviewing them after each crisis to prevent recurrence and **Ineffective communication during crises** also poses a major challenge, as inaccurate, delayed, or inconsistent information increases uncertainty, fuels rumors, undermines trust, and ultimately weakens organizational performance. To overcome this problem, organizations must establish official and reliable communication channels and train dedicated crisis communication teams to deliver timely, transparent, and consistent messages.

2.4 The importance of The Crises Challenges

Crisis challenges derive their importance from the critical role they play in enhancing the preparedness and resilience of individuals, organizations, and communities. Crises often expose structural weaknesses and operational gaps within systems, thereby providing valuable opportunities to develop more effective strategies for managing future risks. The importance of crisis challenges lies in their contribution to strengthening adaptability to changing circumstances, improving decision-making processes, stimulating creativity and innovation, and reinforcing social and institutional cohesion (Coombs, 2022).

In healthcare institutions, the importance of crisis challenges can be examined from two primary perspectives:

1. For the institution is as follows:

Crisis challenges compel healthcare institutions to seek innovative and alternative solutions to complex problems. Confronting crises enhances the institution's ability to adapt to rapidly changing conditions and uncertain environments. Additionally, crises reveal organizational strengths that can be reinforced, as well as weaknesses that require corrective action, thereby contributing to improved future performance. Moreover, effectively addressing crisis challenges supports the development of long-term strategic plans aimed at enhancing institutional stability and sustainability.

2. For the employee is as follows:

At the individual level, crisis challenges play a significant role in developing employees' problem-solving and decision-making skills. Facing demanding situations enhances employees' ability to adapt to new requirements and changing work conditions. Successfully overcoming crisis-related challenges increases employees' self-confidence and professional resilience. Furthermore, crisis experiences teach employees how to maintain acceptable levels of Healthcare Services:and service quality despite high levels of pressure and stress.

The Dimensions of Crisis Challenges

Crisis challenges are characterized by their sudden, complex, and multidimensional nature, which requires a comprehensive understanding of their various dimensions in order to manage them effectively. These dimensions reflect the diverse areas affected by crises and the extent to which their Roles extend beyond immediate operational disruption. The main dimensions of crisis challenges can be classified as follows:

- **The Strategic Dimension** refers to the extent to which crises influence an organizations or a state's long-term plans, strategic objectives, and policy directions. Crises often force decision-makers to reconsider priorities, reallocate resources, and adjust strategic goals in response to rapidly changing conditions.

- **The Psychological and Behavioral Dimension** relates to the Role of crises on the mental health and behavior of individuals and communities. Crises may generate high levels of anxiety, stress, fear, and uncertainty, which can lead to loss of trust, emotional exhaustion, and behavioral disturbances. In healthcare settings, this dimension is particularly critical due to prolonged exposure of to stressful and life-threatening situations.
- **The Political and Social Dimension** encompasses the effects of crises on political stability, institutional legitimacy, and the effectiveness of public policies. From a social perspective, crises can intensify social problems such as poverty, unemployment, forced migration, conflicts, and social fragmentation. Global crises, such as the COVID-19 pandemic, have clearly demonstrated the interconnected political and social consequences of large-scale crises (Reinhart & Rogoff, 2020).

2.5 The concept of psychological stress

Psychological stress refers to a multidimensional state that arises when individuals perceive those environmental demands exceed their adaptive capacities and available coping resources. This imbalance between external pressures and internal resources activates complex physiological, emotional, cognitive, and behavioral responses aimed at restoring equilibrium, when stressors persist or intensify without adequate coping mechanisms, they may disrupt psychological stability and impair overall functioning (WHO, 2022).

-Previous Studies

-Arabic Studies

1. Investigation of Crisis and Disaster Preparedness among Jordanian: A Cross-Sectional Study

Hammad et al. (2025) conducted a cross-sectional study to evaluate the level of crisis and disaster preparedness among in Jordan, including their readiness to respond to health emergencies and large-scale incidents. The study utilized a standardized questionnaire to assess preparedness levels among 282 healthcare professionals working in five public hospitals.

The findings revealed that the overall level of preparedness was moderate. Moreover, statistically significant differences were identified among professional categories, including physicians, nurses, and technicians, suggesting variability in crisis-response competencies across occupational groups. The results also indicated gaps in specialized training and practical competencies related to crisis management and disaster response.

The significance of this study lies in its demonstration that crisis preparedness represents a fundamental determinant of' Healthcare Services:and operational efficiency, particularly in high-pressure and emergency environments. Moderate preparedness levels may limit healthcare workers' ability to respond effectively to unexpected crises, potentially affecting patient safety, service continuity, and institutional resilience.

These findings are highly relevant to the current study, which examines the Role of crisis-related challenges on the Healthcare Services:of at Al-Shifa Medical Complex in the Gaza Strip. While Hammad et al. (2025) focused on preparedness in a relatively stable healthcare context, the present study investigates Healthcare Services:under prolonged and compounded crisis conditions, including armed conflict and systemic resource shortages.

2. Crisis Management and its Role on Hospital Performance: A Field Study on King Salman Hospital in Riyadh

AlMoanes (2025) conducted a field study to examine the Role of crisis management practices on hospital Healthcare Services:at King Salman Hospital in Riyadh. The study analyzed crisis management across four key stages: preparedness and prevention, damage containment and mitigation, recovery (restoration of activity), and organizational learning.

The findings demonstrated strong agreement among respondents regarding the importance of implementing all stages of crisis management within hospital settings. Participants emphasized that effective application of these stages enhances institutional readiness, improves coordination during emergencies, and strengthens response mechanisms. Statistical analysis confirmed that crisis management has a significant positive Role on hospital Healthcare Services:indicators.

These findings are highly relevant to the current study, which investigates the Role of crisis-related challenges on the Healthcare Services:of at Al-Shifa Medical Complex in the Gaza Strip. While AlMoanes (2025) focused on a hospital operating within a relatively stable healthcare infrastructure, the present study examines Healthcare Services:under prolonged and compounded crisis conditions, including armed conflict, resource scarcity, and systemic instability.

Therefore, integrating the four stages of crisis management into the analytical model of the current research strengthens the theoretical foundation of the study and provides a structured lens through which Healthcare Services:outcomes can be interpreted within crisis environments.

3. Providing Care under Extreme Adversity: The Role of the Yemen Conflict on Health Workers

The study was used as the main source because it relies on direct data from healthcare workers and determines the Role of crises on their performance. It also highlights the general effect on the healthcare workforce in Aden, and WHO reports were used to provide a background on the status of health services and facilities in Aden as part of the analysis of the health environment,The study relied on in-depth interviews with 43 healthcare workers, and focus group discussions with gathered in Sana'a, Aden, and Taiz. The importance of the study lies in its scientific description of the Role of the crisis on the Healthcare Services:of and their professional and personal lives in Aden. The results emphasized that the staff faced ongoing violence and security tensions while performing their duties under very difficult working conditions, including shortages of essential supplies and medicines, prolonged salary suspensions, and professional and personal psychological pressures, which negatively affected their health and work (PMC, 2025).

b) Foreign Studies

1. Emotional resilience and sense of danger among doctors in hospitals during periods of heightened tensions and warfare in Israel

A recent study published in the Israel Journal of Health Policy Research (2024) investigated the Role of war and heightened security tensions on physicians' professional functioning within Israeli hospitals. The study aimed to assess how exposure to conflict-related environments influences doctors' Healthcare Services:by examining two central variables: personal emotional resilience and perceived sense of danger while working in hospitals located near active conflict zones.

The research adopted a comparative design, contrasting physicians employed in hospitals in southern Israel geographically proximate to Gaza and frequently exposed to security escalations with those

working in hospitals situated in relatively secure regions. This comparison allowed for the evaluation of contextual exposure to threat as a determinant of psychological and professional outcomes.

And This study provides important empirical evidence regarding the psychological mechanisms through which exposure to conflict environments affects healthcare professionals. The identification of perceived danger as a significant stressor aligns closely with the conceptualization of crisis challenges in the present research. In environments characterized by armed conflict, are not only confronted with clinical overload but also with direct or indirect threats to personal safety.

Thus, the Israeli study offers a comparative regional perspective that strengthens the theoretical foundation of the current research, while the present study contributes by investigating the phenomenon within a chronically conflict-affected health system, thereby addressing a critical gap in the literature concerning sustained crisis exposure and workforce Healthcare Services:(Israel Journal of Health Policy Research,2024).

2. Healthcare system resilience and adaptability to pandemic disruptions in the United States

Lu Zhong et al. (2024) examined the resilience and adaptability of the United States healthcare system in response to large-scale crisis disruptions, particularly during the COVID-19 pandemic. The study aimed to evaluate the system's structural capacity to absorb shocks, reorganize resources, and maintain service continuity amid successive waves of disruption, so the findings indicated that while the U.S. healthcare system demonstrated a measurable degree of adaptability, its flexibility remained constrained under prolonged crisis pressure. Variations in institutional responses were observed across different phases of the pandemic, suggesting that resilience was not uniformly sustained over time. Notably, the availability of an adequate number of physicians emerged as a critical determinant in strengthening systemic resilience and maintaining operational stability, and however, the study also highlighted a significant rise in burnout among physicians and nurses during crisis periods. Elevated stress levels, sustained heavy workloads, role reassignments, and insufficient psychological support contributed substantially to emotional exhaustion and professional fatigue. Importantly, burnout was found to be directly associated with reduced patient safety outcomes and diminished quality of care, underscoring its operational consequences beyond individual well-being, And This study contributes to the theoretical understanding of crisis resilience by demonstrating that system adaptability depends not only on structural capacity but also on workforce sustainability. Even within a highly resourced healthcare system such as that of the United States, prolonged crisis exposure resulted in significant burnout, which in turn negatively affected service quality and patient safety, Moreover, the study reinforces a central assumption of the current research: resilience at the system level cannot be sustained without safeguarding the psychological and professional stability of. Burnout, excessive workload, and insufficient support structures are not merely individual health concerns; they represent systemic risk factors that directly influence Healthcare Services:indicators such as efficiency, service quality, and organizational continuity.

By integrating these insights, the present study extends the discussion of resilience from macro-level system adaptability to micro-level workforce Healthcare Services:within a protracted crisis setting. It empirically investigates how crisis challenges including workload intensity, resource shortages, and psychological stress shape the operational capacity of in a conflict-affected institution (Lu Zhong, Dimitri, L., Sen Pei, Jianxi Gao, 2024).

3. Mental Health, Burnout and Job Stressors Among Healthcare Workers During the COVID-19 Pandemic in Iran

Hajebi et al. (2022) conducted a cross-sectional study to assess mental health status, occupational stress, and burnout levels among healthcare workers in hospitals and healthcare centers across Iran during the COVID-19 pandemic. The study aimed to:

1. Estimate the prevalence of anxiety and depression among healthcare professionals during the crisis,
2. Measure levels of occupational burnout and its Role on hospital staff, and identify job-related stressors associated with professional duties during the pandemic period.

The findings revealed that more than half of the participants exhibited symptoms of generalized anxiety, depression, or both during the crisis. Additionally, a substantial proportion of healthcare workers experienced moderate to high levels of occupational burnout. The study identified several predictive factors contributing to psychological stress and burnout, particularly concerns about family members' health and reciprocal fears within families regarding the healthcare worker's exposure to infection. These findings underscore the multidimensional nature of crisis-related stress, extending beyond workplace pressures to include family-related and social stressors.

The Iranian study provides empirical evidence that large-scale health crises significantly compromise the psychological well-being of healthcare workers, leading to elevated anxiety, depressive symptoms, and burnout. These findings strongly support the theoretical foundation of the present research, which conceptualizes psychological stress and burnout as key consequences of crisis exposure, Moreover, Hajebi et al. (2022) identified family-related concerns as significant predictors of stress and burnout. This dimension is particularly relevant to the Gaza context, where healthcare workers often face simultaneous professional obligations and direct threats to their families' safety during periods of conflict. Thus, the cumulative psychological burden in such an environment may be intensified by the convergence of occupational stressors and existential insecurity (Hajebi, A., Abbasinejad, M., Zafar, M., & Taremian, F. ,2022),And The present study extends beyond measuring mental health outcomes by examining how crisis challenges including psychological stress and burnout translate into measurable Healthcare Services:indicators such as professional efficiency, service quality, organizational commitment, and functional stability. In doing so, it moves from documenting psychological distress to empirically analyzing its operational consequences within a high-risk healthcare institution, Accordingly, the Iranian study reinforces the conceptual argument that crisis exposure significantly affects healthcare workers' psychological health, while the current research contributes by situating this relationship within a protracted conflict environment and linking psychological outcomes directly to Healthcare Services:metrics. This analytical extension represents a substantive addition to the regional and international literature on healthcare workforce resilience in crisis settings.

Field Study

4.1.1 Sample and Sampling Technique

The total sample size 1350 divided to 450 physicians, 610 nurses, 90 pharmacists, and 200 paramedical staff, the sample included 45 physicians, 61 nurses, 9 pharmacists, and 20 paramedical staff, representing approximately 10% of each category. This method guarantees statistical representation while remaining feasible during crisis conditions by using this approach, the study balances accuracy, representativeness, and feasibility, ensuring that the results reflect the experience and Healthcare Services:of at Al-Shifa Medical Complex during crisis periods.

Table 1: Distribution of the participants according to their specialties

Target Population	The number
Physicians	45
Pharmacists	9
Nurses	61
Paramedical	20
Total	**135**

-Period of the study

The study conducted at the end of year 2023. After obtaining approval for the study proposal from the University of Al-Butana, an administrative letter sent to the General Directorate of Human Resource Development at MOH in 2023 to offer facilitation for conducting the study in MOH hospital. Data collected started from 1st Oct 2023 to Jan. 2024. Data analysis and discussion is finished at first Mar., to 1st Apr. 2025. The study took approximately 1 years in total from its beginning. **It should be noted that the delay in conducting the study was due to the Gaza War in 2023.**

-Eligibility Criteria

-Inclusion Criteria

Individual who are working in the medical field including doctors, pharmacists, nurses, and other medical staff in Al-Shifa Medical Complex.

-Exclusion criteria

Staff who are not working in the medical field such as administrative staff, maintenance and cleaners in Al-Shifa Medical Complex

-Ethical and Administrative Considerations

Before conducting the study, the researcher obtained approval from Helsinki Committee and Ministry of Health to conduct the study, in addition, consent form was obtained from the participants confirming their agreement to participate in the study.

-Pilot Study

A pilot study for the questionnaire was conducted before real data collection. It provides a trial run for the questionnaire, which involves testing the wordings of question, identifying ambiguous questions, testing the techniques that are used to collect data, and measuring the effectiveness of standard invitation to respondents (Fitzpatrick and Wallace, 2006). The researcher included 25 participants from the study population, who met the inclusion criteria in the pilot study to assess how easy was the instrument to use, to explore any ambiguity in the terms and to estimate the time needed to complete the questionnaire. Since no change was done on the instrument, these participants were included in the final data analysis.

4.2 Data Collection and Analysis

4.2.1 Study Tools

Data were collected using a structured self-administered questionnaire developed by the researcher based on a comprehensive review of relevant literature and previous studies,The questionnaire included multiple questions. The variety of these questions is designed first to meet up with the research objectives, also to gather all the required data that can support the conversation, results and advice in the study. The questionnaire made up of three sections to perform the purpose of the research. The following is a detailed description of the questionnaire content

4.2.2 Validity of study instruments

4.2.2.1 Face Validity

To increase the response rate, it is important to maintain good face validity for the questionnaire. The researcher constructed the questionnaire in an appealing design. And researcher asked the participants in the pilot study about their opinions regarding the structure, shape, clarity and format.

4.2.2.2 Content Validity

The questionnaire was evaluated by experts to validate the questions and their relation to the domains that reflect the study and their comments were taken into consideration and modification was performed accordingly. Many useful and important modifications and comments were made and taken into consideration for the questionnaire.

4.2.2.3 Statistical Validity

To ensure the validity of the questionnaire, two statistical tests should be applied. The first test is internal validity (Pearson test) which measure the correlation coefficient between each item in the dimension and the whole dimension. The second test is structure validity (Pearson test) that used to test the validity of the questionnaire structure by testing the validity of each dimension and the validity of the whole questionnaire. It measures the correlation coefficient between one dimension and all the dimensions of the questionnaire that have the same level of similar scale.

4.2.3.3.1 Internal validity

The internal consistency was measured by calculating the value of the correlation coefficient the paragraph and the total degree of the dimension to which this paragraph belongs.

Firstly: Validity of the internal consistency of the dimension (Crisis Challenges)

Results in table (4.4) showed that the probability value of each paragraph of the dimension is less than the level of significance 0.05, and this confirms the statistical relationship between the paragraph and the total score of the dimension, and this means that these paragraphs have measured the goal for which they were set.

Table 2: The correlation coefficient between each paragraph in the dimension and the total degree of the dimension (Crisis Challenges)

No.	Paragraphs	Correlation Coefficient	p-value
Resource Limitations			
1.	There is an adequate number of during crises.	0.685	0.001
2.	Medications and medical supplies are sufficient to deal with crises.	0.711	0.001
3.	Shortages of or supplies negatively affect my ability to provide medical care.	0.725	0.001
4.	The healthcare facility is well-equipped with resources to manage crises.	0.738	0.001
5.	The absence of security poses a risk to.	0.695	0.001
6.	Patient overcrowding increases the difficulty of providing healthcare.	0.745	0.001
7.	Power outages directly affect healthcare delivery.	0.781	0.001
Psychological Pressures			
1.	I often feel stressed due to crises at my workplace	0.771	0.001
2.	Fatigue affects my ability to perform tasks effectively	0.651	0.001

No.	Paragraphs	Correlation Coefficient	p-value
3.	I experience psychological exhaustion during prolonged crises	0.647	0.001
4.	Stress affects my decision-making in critical situations	0.724	0.001
5.	I make extra efforts to cover staff shortages	0.811	0.001
6.	I consider leaving work due to multiple pressures during crises	0.726	0.001
Training and Preparedness			
1.	Training programs adequately prepare me to handle crises	0.666	0.001
2.	I feel confident in my ability to manage emergencies due to prior training	0.779	0.001
3.	The training I received is regularly updated to address new challenges	0.757	0.001
4.	I have access to clear protocols and guidelines during crises	0.658	0.001
5.	There is an emergency plan in place to manage crises, either previous or future	0.729	0.001
External Collaboration			
1.	Partnerships with NGOs or other organizations help improve crisis management	0.652	0.001
2.	I actively participate in joint initiatives with external organizations during crises	0.647	0.001
3.	Collaboration with external organizations enhances the quality of care provided during emergencies	0.638	0.001
4.	Logistical support from international organizations is sufficient to improve crisis management	0.674	0.001

Secondly: Validity of the internal consistency of the dimension (' Performance)

Results in table (4.5) showed that the probability value of each paragraph of the dimension is less than the level of significance 0.05, and this confirms the statistical relationship between the paragraph and the total score of the dimension, and this means that these paragraphs have measured the goal for which they were set.

Table 4.2: The correlation coefficient between each paragraph in the dimension and the total degree of the dimension (' Performance)

No.	Paragraphs	Correlation Coefficient	p-value
Quality of Care			
1.	I can maintain a high quality of care even during crises.	0.622	0.001
2.	Adherence to treatment protocols continues despite limited resources.	0.728	0.001
3.	Patient health outcomes are not significantly affected by crises.	0.734	0.001
4.	I demonstrate strong decision-making skills during crises.	0.758	0.001
5.	There is effective and continuous coordination during crises.	0.778	0.001
6.	I maintain professional standards of care during crises.	0.724	0.001
Work Efficiency			
1.	I can respond quickly to patients' needs during crises	0.663	0.001

No.	Paragraphs	Correlation Coefficient	p-value
2.	My productivity remains high even under crisis conditions	0.698	0.001
3.	I manage time effectively despite challenges posed by crises	0.675	0.001
4.	I work according to policies and protocols compatible with reality	0.672	0.001
5.	I continue providing healthcare to patients despite security risks	0.643	0.001
Patient Satisfaction			
1.	Patients express satisfaction with the care they receive during crises	0.637	0.001
2.	I receive positive feedback from patients regarding my performance	0.647	0.001
3.	Patient complaints are minimal even under crisis conditions	0.728	0.001

4.2.3.3.2 Structure Validity

Structure validity is the second statistical test that used to test the validity of the questionnaire structure by testing the validity of each dimension and the validity of the whole questionnaire. It measures the correlation coefficient between one dimension and all the dimensions of the questionnaire that have the same level of liker scale.

As shown in table (4.6), the significance values are less than 0.05, so the correlation coefficients of all the dimensions are significant at $\alpha = 0.05$, so it can be said that the dimensions are valid to be measured what it was set for to achieve the main aim of the study.

Table 3: Correlation coefficient of each field and the whole of questionnaire

No.	Dimension	Correlation Coefficient	p-value
Crisis Challenges		**0.788**	**0.001**
1.	Resource Limitations	0.795	0.001
2.	Psychological Pressures	0.727	0.001
3.	Training and Preparedness	0.791	0.001
4.	External Collaboration	0.734	0.001
' Performance		**0.767**	**0.001**
1.	Quality of Care	0.824	0.001
2.	Work Efficiency	0.737	0.001
3.	Patient Satisfaction	0.718	0.001

4.2.3 Socio-demographic characteristics of participants

The importance of demographic information to meaningful quantitative analysis cannot be undermined. Background and demographic information from respondents were also stained. This section analyzed the demographic information of 135 respondents as shown in Table (4.7).

Table 4: Socio-demographic characteristics of participants

Variable	Frequency (F)	Percent (%)
Gender		
Male	101	74.8
Female	34	25.2
Education Level		

Diploma	16	11.9
Bachelor	80	59.2
Postgraduate	39	28.9
Age		
Less than 25 years	4	3.0
25 to less than 35	49	36.3
35 to less than 45	44	32.6
45+	38	28.1
Years of experience		
Less than 5	8	5.9
5 to less than 10	26	19.3
10 to less than 15	42	31.1
15+	59	43.7
Job title		
Physician	46	34.2
Pharmacist	6	4.4
Nurse	65	48.1
PrarMedical Assistant	18	13.3

The socio-demographic distribution of the participants provides important context for understanding the perspectives and responses reported in the study.

⇒ **Gender**

The results show that the majority of participants were male (74.8%), whereas females represented only 25.2%. This gender imbalance may reflect staffing patterns in many healthcare institutions in Gaza, where certain professions particularly physicians and medical assistants tend to be male-dominated. Similar demographic trends were reported by El-Jardali et al. (2019), who noted a gender imbalance in several Middle Eastern healthcare settings, particularly in emergeny and acute care departments.

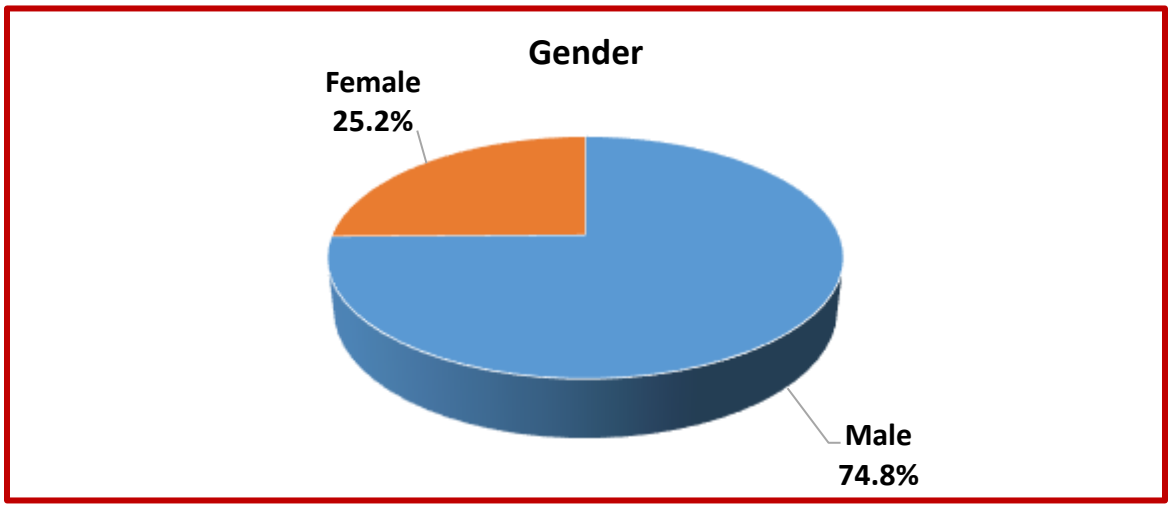

Fig 1: Distribution of the respondents due to gender

⇒ **Age**

The age distribution reveals a balanced mix of younger and more experienced staff: 36.3% were aged 25–35, 32.6% were 35–45, and 28.1% were above 45 years. Only 3% were younger than 25. This

indicates that the sample mainly consists of mid-career and senior healthcare professionals, which may enhance the reliability of their responses, as they bring extensive practical experience. Similar demographic patterns have been reported in studies from low-resource and crisis-affected settings, where workforce stability often results from long-term retention rather than new recruitment (Khatib et al., 2020).

4.3 Hypotheses Testing

The main and sub-hypotheses are verified using the multiple linear regression method, where the effect of the independent variable, representing the Role of crisis challenges, on the dependent variable, ' performance, was studied using the Ordinary Least Squares (OLS) method. The null hypothesis (Ho), which assumes no statistically significant effect, is tested against the alternative hypothesis (H1), which assumes the existence of a statistically significant effect.

- **The Role of crisis-related challenges on the Healthcare Services:of at Al-Shifa Medical Complex in the Gaza Strip**

This study employed regression analysis as the primary statistical tool. Regression analysis allows for assessing the strength and nature of the relationship between crisis-related challenges such as resource limitations, psychological pressures, inadequate training, and lack of external collaboration and ' performance. To address this research question, the following hypothesis was formulated:

H_0: Crisis-related challenges have no significant effect on the Healthcare Services:of at Al-Shifa Medical Complex.

H_1: Crisis-related challenges have a significant effect on the Healthcare Services:of at Al-Shifa Medical Complex.

By testing this hypothesis using regression analysis, the study aims to identify the extent to which different crisis-related factors influence the efficiency, effectiveness, and overall Healthcare Services:of healthcare staff in a high-pressure environment.

Table 5: Regression Analysis of the Role of Crisis-Related Challenges on the Healthcare Services:of at Al-Shifa Medical Complex

Dependent variable	**Independent variable**	**Unstandardized Coefficients**		**t**	**p-value (Sig.)**
		B	**Std. Error**		
' Performance	C	1.608	0.339	4.741	0.000
	Resource Limitations	0.775	0.072	10.764	0.000
	Psychological Pressures	0.286	0.060	4.766	0.000
	Training and Preparedness	0.051	0.040	1.268	0.207
	External Collaboration	0.391	0.053	7.425	0.000
F= 13.934 Sig=0.000 R^2=67.2%					

The regression analysis examined the Role of various crisis-related challenges on the Healthcare Services:of at Al-Shifa Medical Complex. The model is statistically significant (F = 13.934, p = 0.000) and explains 67.2% (R^2 = 0.672) of the variance in' performance, indicating a strong overall effect of the independent variables.

⇒ **Training and Preparedness**

Training and preparedness showed a non-significant effect (B = 0.051, t = 1.268, p = 0.207), suggesting that, in this sample, formal training and preparedness programs did not have a statistically measurable Role on performance.

This result may reflect gaps in the effectiveness or frequency of training programs in Palestinian healthcare facilities. Although training is critical in theory, inadequate practical implementation, resource constraints, or infrequent drills may limit its real-world Role, as highlighted in studies by Al-Husseini (2018).

- **Differences in respondents' average opinions on crisis-related challenges attributable to personal variables (gender, age, educational qualification, years of experience, and job title)**

Understanding whether' perceptions of crisis-related challenges differ according to their personal characteristics is essential for tailoring interventions and support programs. Personal variables such as gender, age, educational qualification, years of experience, and job title may influence how staff perceive and cope with crises, as they often affect experience, resilience, and exposure to specific types of challenges. Examining these differences provides insights into which groups may require additional training, resources, or psychological support to optimize Healthcare Services:during emergencies.

Based on the research question, the hypothesis can be formulated as follows:

H_0 (Null Hypothesis): There are no statistically significant differences in' perceptions of crisis-related challenges based on gender, age, educational qualification, years of experience, or job title.

H_1 (Alternative Hypothesis): There are statistically significant differences in' perceptions of crisis-related challenges based on gender, age, educational qualification, years of experience, or job title.

To test the hypothesis, appropriate statistical analyses should be applied depending on the type of personal variable: Gender (categorical, two groups) – Use Independent Samples t-test to compare mean perceptions between male and female respondents. Age, Educational Qualification, Years of Experience, Job Title (categorical with more than two groups) – Use One-Way ANOVA to compare mean perceptions across different categories (e.g., age groups, education levels, job titles).

Table 6: Differences in Respondents' Average Opinions on Crisis-Related Challenges by Personal Variables

Variable	Class	Mean	STD	Test statistic	*P*-value
Gender	Male	3.23	0.38	T= 0.324	0.746
	Female	3.26	0.39		
Education Level	Diploma	3.30	0.44	F=0.704	0.496
	Bachelor	3.21	0.33		
	Postgraduate	3.29	0.46		
Age	Less than 25 years	2.91	0.25	F=2.686	0.051
	25 to less than 35	3.16	0.30		
	35 to less than 45	3.31	0.37		
	45+	3.32	0.47		
Job title	Physician	3.23	0.42	F=1.162	0.327
	Pharmacist	3.11	0.26		

	Nurse	3.23	0.38		
	Medical Assistant	3.39	0.33		
Years of experience	Less than 5	3.11	0.34	F=1.178	0.321
	5 to less than 10	3.22	0.28		
	10 to less than 15	3.20	0.36		
	15+	3.31	0.44		

Investigating whether personal characteristics influence' perceptions of crisis-related challenges is essential for understanding how staff experience and respond to emergencies in Palestinian healthcare settings. This study examined differences in perceptions across five personal variables: gender, educational level, age, job title, and years of experience. Overall, the analysis revealed that most personal variables did not produce statistically significant differences, indicating that perceptions of crisis-related challenges are largely uniform across staff groups. Minor trends were observed for age and years of experience, where older or more experienced staff reported slightly higher perception scores, but these differences were not significant. Similarly, gender, educational level, and job title did not significantly affect perceptions, suggesting that systemic factors such as resource constraints, high patient loads, and exposure to crises have a stronger influence than personal characteristics.

- **Differences in respondents' average opinions on' Healthcare Services:attributable to personal variables (gender, age, educational qualification, years of experience, and job title)**

Examining whether' Healthcare Services:differs according to personal variables is essential to identify groups that may require additional support, training, or resources. Personal characteristics such as gender, age, educational qualification, years of experience, and job title can influence professional behavior, efficiency, decision-making, and overall performance, particularly in challenging environments such as crisis-prone healthcare facilities in Palestine. Understanding these differences can help policymakers and hospital administrators design targeted interventions to enhance Healthcare Services:across all staff categories.

Based on the research question, the hypothesis can be formulated as follows:

H_0 (Null Hypothesis): There are no statistically significant differences in' Healthcare Services:based on gender, age, educational qualification, years of experience, or job title.

H_1 (Alternative Hypothesis): There are statistically significant differences in' Healthcare Services:based on gender, age, educational qualification, years of experience, or job title.

To test the hypothesis, appropriate statistical analyses should be applied depending on the type of personal variable: Gender (categorical, two groups) – Use Independent Samples t-test to compare mean perceptions between male and female respondents. Age, Educational Qualification, Years of Experience, Job Title (categorical with more than two groups) – Use One-Way ANOVA to compare mean perceptions across different categories (e.g., age groups, education levels, job titles).

Table 7: Differences in Respondents' Average Opinions on' Healthcare Services:by Personal Variables

Variable	**Class**	**Mean**	**STD**	**Test statistic**	***P*-value**
Gender	Male	3.04	0.50	T= 1.511	0.133
	Female	3.19	0.54		
Education Level	Diploma	3.37	0.31	F=3.171	0.045

	Bachelor	3.05	0.52		
	Postgraduate	3.01	0.52		
Age	Less than 25 years	3.34	0.25	F=1.385	0.250
	25 to less than 35	3.02	0.49		
	35 to less than 45	3.18	0.49		
	45+	3.01	0.56		
Job title	Physician	2.98	0.49	F=1.213	0.307
	Pharmacist	2.99	0.46		
	Nurse	3.12	0.46		
	Medical Assistant	3.20	0.71		
Years of experience	Less than 5	3.42	0.53	F=2.576	0.057
	5 to less than 10	2.89	0.46		
	10 to less than 15	3.13	0.50		
	15+	3.08	0.51		

Understanding how personal characteristics influence' Healthcare Services:is essential for designing targeted interventions and support programs, especially in challenging environments like Palestinian hospitals. In this study, differences in perceived Healthcare Services:were examined across five personal variables: gender, educational level, age, job title, and years of experience. The analysis revealed that, overall, most personal variables did not produce statistically significant differences in Healthcare Services:perceptions. However, educational level was an exception, with diploma-holders reporting higher Healthcare Services:compared to those with bachelor's or postgraduate degrees. Minor trends were observed for age and years of experience, where younger or less experienced staff tended to report slightly higher performance, but these differences were not statistically significant. Gender and job title showed no notable Role on Healthcare Services:perceptions, suggesting a relatively uniform experience across these groups. These findings highlight that, in the Palestinian healthcare context, systemic and environmental factors such as resource constraints, high patient loads, and crisis-related pressures may play a larger role in shaping perceived Healthcare Services:than individual demographic or professional characteristics.

-Results and Recommendations

-Falsity: Study Results

1. The findings indicated that the overall level of crisis-related challenges faced by healthcare professionals at Al-Shifa Medical Complex was consistently high across all measured dimensions, reflecting the intensity of the prolonged humanitarian crisis in the Gaza Strip.
2. Severe shortages of essential medical supplies, pharmaceuticals, and clinical equipment emerged as one of the most critical operational barriers affecting healthcare service delivery.
3. Overcrowding in hospital departments and the continuous influx of injured patients during emergencies significantly increased pressure on healthcare facilities and staff capacity.
4. Healthcare professionals reported substantially elevated workloads and prolonged working hours, particularly during periods of mass casualty incidents and system overload.

5. High levels of psychological stress, emotional exhaustion, and occupational burnout were widely observed among healthcare workers operating under sustained crisis exposure**.**

-Study Recommendations

1. Develop and institutionalize comprehensive strategic crisis-management frameworks within healthcare institutions to enhance preparedness for large-scale emergencies.
2. Establish dedicated crisis management units within health system governance structures to coordinate emergency response and resource allocation more effectively.
3. Strengthen medical supply chain resilience by creating strategic reserves of essential medicines, medical equipment, and emergency resources.
4. Expand human resource capacity in healthcare facilities through workforce reinforcement, flexible staffing models, and emergency deployment systems.
5. Implement continuous professional training programs focusing on crisis leadership, emergency clinical decision-making, and disaster response management.

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