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**Disaster Preparedness and its Association with Resilience,
Personality Traits, and Organizational Factors among
Registered Nurses**

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Thesis Approval

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Declaration

I declare that this thesis was composed by myself and that the work contained herein is my own, except where it states otherwise by references or acknowledgment, the work presented is entirely my own.

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Dedication

This thesis is dedicated to my loving family, whose unwavering support, encouragement, and understanding have been the cornerstone of my academic journey. To my parents, whose sacrifices and belief in my potential have shaped my aspirations and guided me every step of the way. To my siblings, for their constant encouragement and shared moments of laughter amidst the challenges. To my partner, for their patience, understanding, and unwavering belief in my abilities.

I also dedicate this work to my mentors, advisors, and colleagues, whose guidance, wisdom, and expertise have been invaluable throughout my research journey. To the participants of this study, whose contributions and insights have enriched my understanding and fueled my passion for this field of study. Lastly, I dedicate this thesis to future generations of scholars and researchers, may your curiosity be boundless, your perseverance unwavering, and your contributions to knowledge everlasting.

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Abstract

Background: Disaster preparedness among nurses was crucial for effective crisis response and patient care. Despite global initiatives to enhance disaster preparedness among healthcare professionals, challenges remained in ensuring consistent training and readiness. While there have been studies on disaster preparedness, significant gaps persisted in integrating comprehensive disaster preparedness curricula into nursing education and ongoing professional development. Additionally, variability in the implementation and standardization of preparedness protocols across different healthcare institutions contributed to these gaps. Thus, there was a pressing need to systematically evaluate and enhance disaster preparedness programs to ensure that nurses were adequately equipped to respond to crises, particularly in regions with diverse healthcare systems and varying levels of infrastructure and resources.

Purpose: This study aimed to examine the associations between nurses' resilience, personality traits (dispositional optimism and trait anxiety), nurse-nurse interaction, and organizational factors in their work environment, with both disaster preparedness (e.g., skills and resources) and psychological (e.g., emotional and mental readiness) dimensions of disaster preparedness, as described in relevant literature.

Methods: A cross-sectional study was conducted at Hillel Yaffe Medical Center in Israel, involving 256 registered nurses recruited through convenience sampling. Data collection took place over one year from May 2023 to May 2024, utilizing a structured questionnaire to assess both disaster preparedness and psychological disaster preparedness, resilience, personality traits (dispositional optimism and trait anxiety), nurse-nurse interaction, and organizational factors. Descriptive statistics were employed to summarize the data. Pearson correlations were used to explore relationships between continuous variables. Independent samples t-tests were

conducted to compare the means of two independent groups, while Analysis of Variance (ANOVA) was used to compare means among three or more groups. Multiple linear regression analysis was performed to identify predictors of nurses' disaster preparedness and psychological disaster preparedness.

Results: Descriptive analysis revealed varying levels of nurses' resilience, personality traits (dispositional optimism and trait anxiety), nurse-nurse interaction, organizational factors, and both disaster preparedness and psychological dimensions of disaster preparedness. Pearson correlation analysis showed significant associations between nurses' resilience, personality traits, nurse-nurse interaction, organizational factors, and disaster preparedness dimensions. Independent samples t-tests and ANOVA demonstrated significant differences in disaster preparedness levels based on individual and organizational factors. Multiple linear regression analysis identified predictors of disaster preparedness and psychological disaster preparedness among nurses.

Conclusion: The study highlighted the complex aspects of nurses' disaster preparedness, emphasizing the importance of organizational support, positive work environments, and leadership. It suggested that while disaster preparedness was moderate, psychological preparedness needed specific strategies to enhance coping and stress management. Integrating these aspects into disaster planning was vital. Prioritizing targeted interventions and education could improve nurses' resilience and their ability to provide effective care in emergencies.

Keywords: Crisis response, Dispositional optimism, Disaster Preparedness, Emergency care, Healthcare professionals, disaster preparedness, Nurse-nurse interaction, Organizational factors, Personality traits, Psychological preparedness, Resilience, Trait anxiety

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List of Abbreviations

CDRS-25	Connor-Davidson Resilience Scale 25
DPET	Disaster Preparedness Evaluation Tool
LOT-R	Life Orientation Test-Revised
N	Numbers
NDNQIRN	National Database of Nursing Quality Indicators Registered Nurse
M	Mean
PES-NWI	Practice Environment Scale of the Nursing Work Index
PPDTS	Psychological Preparedness for Disaster Threat Scale
PTSD	Post-Traumatic Stress Disorder
STAI	State-Trait Anxiety Inventory
SD	Standard deviation
%	Percentage

Chapter One

Introduction

1.1 Background

A disaster is an occurrence that may affect a sizable number of people or groups of people, such as an entire community or even a whole nation, and may harm the environment, economy, or public health (Labrague et al., 2018). It is also seen as a serious event that severely impairs a community's ability to function and results in significant financial, physical, and human damage that exceeds the public's capacity to cope (Beitz, 2019).

Disasters can be natural or man-made. Natural disasters include earthquakes, volcanoes, hurricanes, and floods, while examples of man-made disasters are war, pollution, nuclear blasts, fires, exposure to hazardous materials, explosions, and transportation accidents (Beitz, 2019). Disasters may also encompass communicable diseases with epidemic potential, such as the current COVID-19 pandemic (Alan et al., 2022). Disasters often occur suddenly and frequently without prior notice. Given the current level of global connection, neither individuals nor nations can be entirely protected from the threat of natural or other disasters (Alan et al., 2022).

Although there have been numerous catastrophes throughout history, they are becoming more frequent and more severe on a global scale every day, potentially as a result of social, economic, political, and environmental changes (Beitz, 2019). As a result of the alarming increase in disaster incidents, health organizations must develop effective disaster planning strategies (Al Thobaity et al., 2017).

One of the services with the highest expectations for quality during disasters is healthcare. The majority of medical professionals are nurses, who are required to perform effectively at all times for the general welfare of society (Murphy et al., 2021). Nurses are among the first responders to a disaster. They can operate as a link between the necessary resources and participate actively in each stage of the disaster cycle (Songwathana & Timalisina, 2021). The preparedness of nurses for disasters provides an opportunity to avoid significant losses by effectively responding to the disaster event and coping with its consequences (Pourvakhshoori et al., 2017). Moreover, disaster preparedness may influence the likelihood that a nurse will report to work after a disaster (McNeill et al., 2020). Thus, it is essential for nurses to be adequately prepared for disasters.

Recognizing the significance of nurses' disaster preparedness, various countries have initiated efforts to enhance it (McNeill et al., 2020). This is evident in the integration of disaster preparedness into nursing curricula, emphasizing principles and patient management in disaster scenarios, along with providing specialized disaster management courses for nurses (Yamashita & Kudo, 2014). Despite these endeavors, recent studies indicate that nurses continue to feel inadequately prepared, both disaster preparedness and psychologically, to respond to disasters (Martono et al., 2019; McNeill et al., 2020; Murphy et al., 2021). This suggests that nurses' disaster preparedness is a complex issue, and merely acquiring knowledge may not be sufficient (McNeill et al., 2020; Murphy et al., 2021). Consequently, there is a need to investigate the various factors influencing disaster preparedness.

The literature review reveals several complex factors that likely influence nurses' disaster preparedness (Songwathana & Timalisina, 2021). Systematic reviews underscore the pivotal role of disaster management education and training in

enhancing nurses' preparedness, with exposure to disaster-related experiences further amplifying their knowledge and skills (Labrague et al., 2018; Songwathana & Timalina, 2021). Correlations between disaster exposure and preparedness, as evidenced in studies from Indonesia and Jordan (Al-Ali & Ibaid, 2015; Rizqillah & Suna, 2018), underscore the global relevance of these findings. Turkish research sheds light on the associations between recent training, exercises, and active involvement in disaster situations (Alan et al., 2022), contributing a nuanced layer to the understanding of the phenomenon. While disaster training exhibits positive associations with preparedness in global studies (Murphy et al., 2021; Usher et al., 2015), there is a growing need for a more profound exploration of the psychological dimensions inherent in these programs (Said et al., 2020).

Resilience emerges as a cornerstone, influenced by individual, environmental, and organizational factors (Huey & Palaganas, 2020). Resilient nurses exhibit heightened crisis response capabilities and lower instances of stress-related issues (Turner, 2014). Notably, resilience positively correlates with disaster core competencies (Alan et al., 2022). Gandhi et al. (2021) emphasize its predictive role in psychological preparedness during the COVID-19 pandemic, highlighting resilience, self-efficacy, and optimism as indispensable predictors.

Personality traits, including self-efficacy, optimism, anxiety tendencies, and self-esteem, surface as crucial determinants of psychological preparedness (Malkina-Pykh & Pykh, 2015). Optimism acts as a protective buffer, while trait anxiety exhibits a negative impact on preparedness (Said et al., 2020). The significance of these personality factors necessitates further exploration, as underscored by Gandhi et al.'s (2021) study.

Organizational factors wield substantial influence, with the work environment playing a pivotal role (Wei et al., 2018). Leadership quality is critical, impacting disaster preparedness, team support, and nurses' overall involvement (Abuadas & Albikawi, 2022; Hutchison, 2017; Lim et al., 2020). Collegial relationships foster team unity, motivating nurses to respond effectively in the face of adversity (Al Harthi et al., 2020). However, policy-making's role remains an underexplored facet, with varied disaster knowledge based on hospital type highlighting the need for deeper investigations (Basnet et al., 2016).

1.2 Problem Statement

Disaster preparedness among nurses is a multifaceted concept influenced by various personal and organizational factors (Heath et al., 2020). In the contemporary nursing practice environment, nurses are required to possess clinical skills, knowledge, and the ability to integrate these elements effectively (Martono et al., 2019). While existing literature sheds light on the role that personal and organizational factors play in both the disaster preparedness and psychological dimensions of disaster preparedness (Martono et al., 2019; McNeill et al., 2020; Murphy et al., 2021), more evidence is needed to ascertain the effectiveness of these factors in influencing both disaster preparedness and psychological disaster preparedness. In particular, the theoretical understanding of the factors that impact disaster preparedness is notably lacking.

Recent statistics highlight a significant gap in disaster preparedness among nurses worldwide. According to Heath et al. (2020), only about 30% of nurses feel adequately prepared to handle disaster situations, reflecting a critical need for improved training and resources. Similarly, a survey conducted by McNeill et al. (2020) found that less than 40% of nurses had received any form of disaster

preparedness training in the past year. These figures underscore the urgent need for more robust and comprehensive disaster preparedness programs.

In recent years, Israel has witnessed substantial initiatives aimed at advancing disaster preparedness among nurses. These efforts, predominantly spearheaded by government organizations, encompass a diverse range of activities, including readiness tests, stringent controls, and evaluations conducted by both military and government entities (Aaron & Andrews, 2016). Despite the notable strides taken in implementing these programs, there is currently a dearth of available data about the effectiveness of these initiatives and their underlying theoretical foundations. The absence of empirical evidence regarding the impact and theoretical underpinnings of these activities raises questions about their efficacy and necessitates a critical examination to assess their overall contribution to enhancing the disaster preparedness of nursing professionals in Israel.

The complexity of disaster preparedness in the nursing profession underscores the need for a more thorough investigation of its underlying factors. This research seeks to address this gap in knowledge by delving into the specific elements that impact both the disaster preparedness and psychological dimensions of preparedness. The ultimate goal is to contribute to more effective disaster management strategies and better preparedness among nurses, particularly in the Arab region where this topic remains underexplored.

Despite of significant efforts have been made to improve disaster preparedness among nurses, substantial gaps remain, particularly in understanding the interplay of personal and organizational factors. This study aims to fill these gaps by providing a comprehensive analysis of disaster preparedness among nurses in Israel

and the Arab region, ultimately contributing to enhanced preparedness and more effective crisis response.

1.3 Significance of the Study

This study holds significant potential to contribute to the field of disaster preparedness among nurses in multiple ways. By exploring the factors that influence nurses' preparedness, the research provides valuable insights into how to better equip nurses for effective responses in disaster situations. Enhanced preparedness among nurses can lead to improved disaster management and ultimately save lives. The study's findings can inform the development of targeted training programs for nurses by identifying critical personal and organizational factors that impact disaster preparedness. Understanding these factors allows for the design of training that focuses on these specific areas, ensuring that nurses are adequately prepared to handle various disaster scenarios.

Furthermore, focusing on resilience and personality traits highlights the importance of nurses' mental and emotional well-being during disasters. This knowledge underscores the need for psychological support programs and strategies to enhance nurses' resilience, contributing to their overall mental health and ensuring their ability to perform under crisis conditions. The identification of organizational factors that influence disaster preparedness can also guide improvements in the work environment. Hospitals and healthcare institutions can utilize this information to create conditions that foster better disaster preparedness among their nursing staff, leading to more supportive and effective workplace environments.

Additionally, the study's focus on the Arab region addresses a critical gap in the existing literature. It provides region-specific insights into disaster preparedness among nurses, recognizing that preparedness strategies may need to be tailored to the

unique challenges and characteristics of this region. This regional focus ensures that the findings are relevant and applicable to the local context. The findings can also inform policy development at both institutional and national levels. Governments and healthcare institutions can use this research to shape policies that promote disaster preparedness among nursing professionals, emphasizing both psychological and disaster preparedness aspects of preparedness to ensure a comprehensive approach to disaster readiness.

Significance of this study lies in its potential to improve disaster preparedness among nurses, enhance their resilience, and optimize their work environments. These outcomes have broader implications for disaster management, healthcare quality, and the well-being of both nursing professionals and the communities they serve. By addressing the multifaceted nature of disaster preparedness, this research contributes to the development of more effective and comprehensive preparedness strategies.

Therefore, this study is a comprehensive exploration of the phenomenon of disaster preparedness and psychological preparedness among nurses. This in-depth investigation is essential to improve understanding of the subject. By identifying predictors of disaster preparedness and psychological preparedness, this research can serve as a foundation for the development of precise strategies aimed at enhancing overall preparedness levels.

1.4 Purpose of the Study

The study's purpose was to examine the associations between nurses' resilience, personality traits (dispositional optimism and trait anxiety), nurse-nurse interaction, and organizational factors of their work environment, with disaster preparedness. In addition, this study seeks to identify the predictors of nurses' disaster preparedness and psychological disaster preparedness.

1.5 Specific objectives

1. Determine the levels of disaster preparedness, resilience, personality traits (dispositional optimism and trait anxiety), nurse-nurse interaction, and organizational factors among registered nurses working in hospitals in Israel
2. Investigate the associations between disaster preparedness levels and nurses' resilience, personality traits (dispositional optimism and trait anxiety), organizational factors of the work environment, nurse-nurse interaction, and nurses' personal and professional factors among registered nurses working in hospitals in Israel.
3. Assess differences in the disaster preparedness levels based on nurses' personal and professional characteristics, including gender, disaster education, disaster training at the place of work, prior experience in managing a disaster, and completion of an advanced nursing course.
4. Determine the predictors of disaster preparedness among nurses working in hospitals in Israel

1.6 Research Questions

1. What are the levels of disaster preparedness and the levels of other related variables such as resilience, personality traits (dispositional optimism and trait anxiety), nurse-nurse interaction, and organizational factors among registered nurses working in hospitals in Israel?
2. Are there any associations between disaster preparedness levels and nurses' resilience, personality traits (dispositional optimism and trait anxiety), organizational factors of the work environment, nurse-nurse interaction, and nurses' personal and professional factors?

3. Are there differences in the disaster preparedness and psychological disaster preparedness levels based on nurses' personal and professional characteristics, including gender, disaster education, disaster training at the place of work, prior experience in managing a disaster, and completion of an advanced nursing course?
4. What are the predictors of disaster preparedness and psychological disaster preparedness levels among nurses working in hospitals in Israel?

1.7 Conceptual and Operational Definitions

This section will elucidate the definitions of the study variables, with disaster preparedness and psychological disaster preparedness designated as dependent variables, and personal and organizational factors designated as independent variables. Table 1 presents the conceptual and operational definitions of each study variable.

Table 1: Study Variables – Conceptual and Operational Definitions

Variable	Conceptual definition	Operational definition
Nurses' disaster preparedness	Nurses' disaster preparedness encompasses the multifaceted ability of nursing professionals to effectively anticipate, respond to, and manage challenges posed by disasters, whether natural or human-made. Disaster preparedness involves disaster preparedness and psychological components (Abuadas & Albikawi, 2022).	The disaster preparedness was measured using the Disaster Preparedness Evaluation Tool (DPET), which consisted of 46 items classified in 3 subscales (Preparedness, Response, and Evaluation) (McLennan et al., 2020). Psychological preparedness was

Variable	Conceptual definition	Operational definition
	<p>Psychological preparedness comprises two main mental components: An affective aspect involving self-awareness, understanding, and emotion control, and a cognitive aspect targeted at the threat, encompassing knowledge of the threat scenario, the environment, and adaptive responses (McLennan et al., 2020).</p>	<p>measured using the Psychological Preparedness for Disaster Threat Scale (PPDTS), which consists of 18 items classified into two subscales: Knowledge and management of the external situational environment (10 items), and Anticipation, awareness, and management of one's psychological response (8 items) (McLennan et al., 2020).</p>
Resilience	<p>Nurses' resilience is a multidimensional construct representing their capacity to adapt, bounce back, and maintain well-being in the face of adversity and stress in the healthcare profession (Madrigano et al., 2017).</p>	<p>Nurses' resilience is operationally defined through various dimensions, including emotional resilience, assessed via self-report surveys or structured interviews that evaluate emotional stability and adaptability to stress. Mental toughness is operationalized through observational evaluation, focusing on the ability to stay focused, make critical decisions under pressure, and perform effectively in</p>

Variable	Conceptual definition	Operational definition
		<p>challenging conditions. Work-related stress management is evaluated through surveys or interviews, examining nurses' strategies for handling work-related stress, coping mechanisms, and stress-reduction practices. The assessment of the ability to provide emotional support involves gathering feedback from patients, families, or colleagues to gauge nurses' capacity to offer crucial emotional support during challenging situations. These operational definitions offer specific methods and indicators for studying different facets of nurses' resilience, providing a comprehensive framework for research and assessment in this critical area.</p> <p>Resilience was measured using the Connor-Davidson Resilience Scale developed by Connor</p>

Variable	Conceptual definition	Operational definition
		(CDRS-25). It contains a total of 25 items (Madrigano et al., 2017).
Dispositional optimism	Dispositional optimism, in the context of personality traits of nurses, refers to a stable, generalized expectation that positive outcomes are more likely to occur than negative ones. It reflects an individual's tendency to maintain a positive outlook, even in challenging or uncertain situations. Nurses with high dispositional optimism are more likely to approach their work with a hopeful and positive attitude, viewing obstacles as temporary and manageable (Malkina-Pykh & Pykh, 2015).	To operationalize dispositional optimism in nurses, an effective approach involves assessing their positive and hopeful outlook through the utilization of standardized scales and measures. The Life Orientation Test-Revised (LOT-R), a widely employed self-report questionnaire, was utilized in this study. In this assessment, nurses express their level of agreement with statements about optimism and pessimism, and resulting scores provide a quantitative measure of their dispositional optimism (Madrigano et al., 2017).
Anxiety	anxiety, as a personality trait of nurses, represents a consistent pattern of experiencing anxiety	Trait anxiety in nurses is operationalized by employing various methods, including self-

Variable	Conceptual definition	Operational definition
	<p>across various situations and over time. It characterizes an individual's predisposition to perceive and react to situations with apprehension, tension, and worry. Nurses with high trait anxiety tend to exhibit a persistent level of anxiety, which may affect their ability to cope with stressors in the healthcare environment (Said et al., 2020).</p>	<p>report measures such as the State-Trait Anxiety Inventory (STAI), where nurses respond to statements to gauge their typical anxiety levels. Only the Trait-Anxiety subscale was used. It consists of 20 items (Said et al., 2020)</p>
<p>Nurse-nurse interactions (communication)</p>	<p>Nurse-nurse interactions refer to the quality of interpersonal exchanges and collaborative dynamics among nurses within the workplace setting. This construct encompasses nurses' satisfaction with their interactions with other nurses during the course of their duties (Taunton et al., 2004).</p>	<p>Nurse-nurse interactions subsection measures nurses' satisfaction with the interaction between nurses while at work. This is measured by responses from 3 questions on the NDNQI RN Survey with Job Satisfaction-R related to nurses' satisfaction with their interactions with other nurses while at work, related to dependability of other nurses they work with, teamwork, and support of and between nurses they work with (Taunton et al., 2004)..</p>

Variable	Conceptual definition	Operational definition
Organizational factors of nurses' work environment	<p>These encompass various aspects of the workplace that facilitate or constrain professional nursing practice, namely, influence nurses' job satisfaction, well-being, and performance. They include elements such as nurse participation in hospital affairs, nursing foundations for quality of care, leadership and support for nurses, staffing and resource adequacy, collegial nurse-physician relations, nurse-nurse interactions, and other organizational aspects.</p> <p>The engagement of nurses in hospital affairs involves their active participation in decision-making and governance, contributing to organizational strategies through committee involvement and policy formulation. Nursing foundations for quality of care encompass fundamental principles such as evidence-based practices, ethical standards, continuous professional development, and a commitment to</p>	<p>Organizational factors of nurses' work environment are assessed through nurses' perceptions of the various aspects of their workplace. Namely, perceptions of fundamental principles, standards, and core elements that underpin the delivery of high-quality nursing care, perceptions of support from hospital leadership, perceptions of nurse-to-patient ratio, equipment availability, and support staff adequacy, perceptions of the quality of interactions between nurses and physicians, perceptions of teamwork, collaboration, and communication among nursing staff.</p> <p>Organizational factors were measured using the Practice Environment Scale of the Nursing Work Index (PES-NWI), which includes 31 items (Lake, 2002).</p>

Variable	Conceptual definition	Operational definition
	<p>patient-centered care, ensuring the delivery of high-quality nursing services. Nurse manager ability, leadership, and support acknowledge the crucial role of nurse managers in organizational management, effective leadership, and providing support to nursing staff for optimal job performance and personal well-being. Staffing and resource adequacy highlight the importance of maintaining optimal nurse-to-patient ratios, ensuring equipment availability, and providing support staff to facilitate effective patient care and prevent burnout. Collegial nurse-physician relations emphasize collaborative interactions, open communication, and shared decision-making between nurses and physicians, contributing to a harmonious work environment and enhancing overall healthcare delivery effectiveness (Lake, 2002).</p>	

1.8 Summary

This chapter introduced the complex nature of nurses' disaster preparedness, revealing a persistent gap between efforts to enhance nurses' disaster preparedness and their actual preparedness, both disaster preparedness and psychological. This chapter delved into various factors influencing nurses' disaster preparedness, including disaster education and training, resilience, personality traits, and organizational dynamics. A particular emphasis was placed on the global relevance of these factors and the need for a nuanced exploration of psychological dimensions. The multifaceted nature of disaster preparedness, prompting a call for further investigation into its influencing factors, especially in the context of Israel and the Arab region. The purpose of the study was outlined, focusing on exploring associations between resilience, personality traits, organizational factors, and nurses' disaster preparedness. The significance of the study indicating its potential contributions to improving disaster management strategies, informing targeted training programs, enhancing nurses' mental well-being, and shaping regional policies.

Chapter Two

Literature Review

2.1 Introduction

This chapter provides a comprehensive review of the literature on nurse disaster preparedness, offering insights into both disaster preparedness and psychological dimensions. The multifaceted concept of disaster preparedness in nursing is explored, shedding light on the diverse factors that influence nurses' preparedness to respond effectively in the face of disasters. The critical components encompass disaster education and training, disaster-related experiences, resilience, personality traits—specifically dispositional optimism and trait anxiety—organizational factors of the nurses' workplace, nurse-nurse interaction, and nurses' personal and professional characteristics.

A systematic review methodology was employed, guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework, to ensure a rigorous and comprehensive examination of the existing literature. The PRISMA approach involves four key phases: identification, screening, eligibility, and inclusion. In the identification phase, a broad search of relevant databases was conducted to gather potential studies. Screening involved removing duplicates and initial assessment of relevance based on titles and abstracts. The eligibility phase entailed a detailed review of the full texts to ensure the studies met predefined inclusion criteria. Finally, in the inclusion phase, the selected studies were synthesized and analyzed to draw meaningful conclusions about nurse disaster preparedness.

This systematic review aims to elucidate the intricate interplay of various factors impacting nurses' disaster preparedness. By integrating the PRISMA

framework, the review not only ensures a transparent and replicable process but also enhances the validity and reliability of the findings. The insights garnered from this review are disaster preparedness in identifying gaps in the current knowledge base and informing the development of targeted interventions and policies to bolster disaster preparedness among nurses.

2.2 The Search Strategy

This comprehensive review, inspired by the systematic review methodology outlined by Sutton et al. (2019), was conducted to meticulously analyze existing literature on nurse disaster preparedness. The aim was to construct a compelling argument regarding the problem at hand, thereby elucidating the imperative for the current study.

A purposeful and systematic strategy was employed in the literature search, leveraging key databases such as MEDLINE, PubMed, Google Scholar, and APA Psych Info. This rigorous process unfolded across three distinct rounds, each serving a specific purpose:

- Initial Round:** The aim was to identify literature that substantiates the scope of the research problem, emphasizing the crucial nexus between disaster planning, disasters, humans, and nurses.
- Second Round:** Focused on literature related to interventions, using search terms such as "Disaster Planning," "Disasters," "Humans," and "Nurses." This phase aimed to scrutinize the existing discourse surrounding interventions related to nurse disaster preparedness.
- Final Round:** Extended the exploration into the realms of "disaster preparedness and psychological dimensions," "education," "resilience," "personality traits," "organizational support," and "personal and professional characteristics" of nurses. This stage sought to delve into the intricacies of the literature, evaluating the depth and breadth of knowledge regarding the multifaceted aspects influencing nurse disaster preparedness. To ensure

a thorough examination, manual searches, and reference checking were intermittently integrated into the review process.

Inclusion Criteria included articles published between 2013 and 2023, with exceptions made for key studies identified through reference checking that predate this period, published in English, Hebrew, and Arabic. Population, focusing on nurses and their disaster preparedness, addressing disaster preparedness and psychological dimensions of disaster preparedness, including education, resilience, personality traits, organizational support, and personal and professional characteristics. While exclusion criteria included studies not focusing on nurses, not available in full text, and non-peer-reviewed.

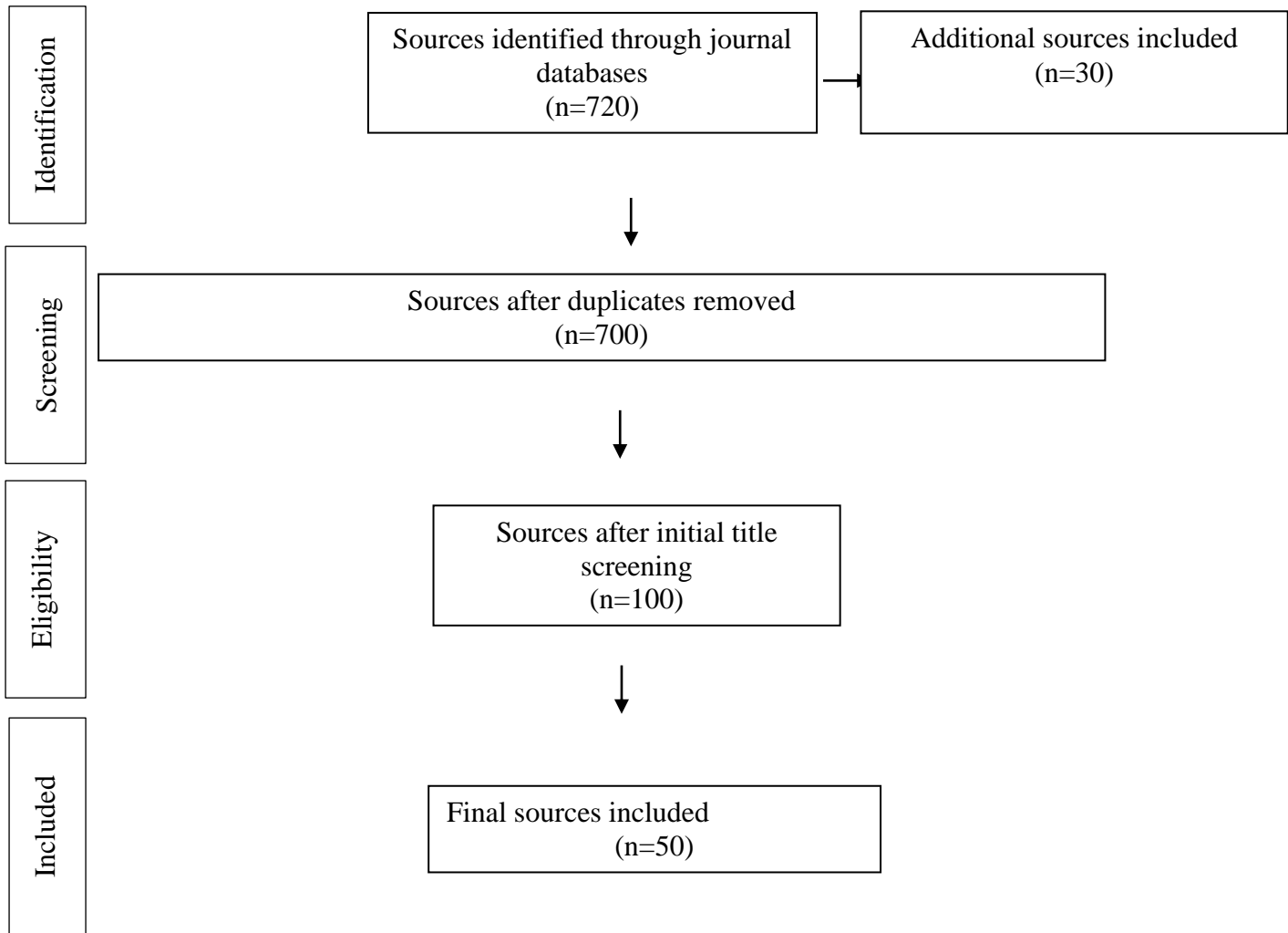


Figure 1: PRISMA Flow Diagram. A visual representation of the data collection and retrieval process

2.3 Situation in Israel

In recent years, Israel has witnessed substantial initiatives aimed at advancing disaster preparedness among nurses. These efforts, predominantly spearheaded by government organizations, encompass a diverse range of activities, including readiness tests, stringent controls, and evaluations conducted by both military and government entities (Aaron & Andrews, 2016). Despite the notable strides taken in implementing these programs, there is currently a dearth of available data the effectiveness of these

initiatives and their underlying theoretical foundations. The absence of empirical evidence regarding the impact and theoretical underpinnings of these activities raises questions about their efficacy and necessitates a critical examination to assess their overall contribution to enhancing the disaster preparedness of nursing professionals in Israel. Furthermore, it is important to note that such factors have not been thoroughly investigated among nurses in the Arab region. Therefore, this study aims to provide a comprehensive exploration of the phenomenon of disaster preparedness and psychological preparedness in nurses. This in-depth investigation is essential to improve understanding of the subject. By identifying predictors of disaster preparedness and psychological preparedness, this research can serve as a foundation for the development of precise strategies aimed at enhancing overall preparedness levels.

2.4 Nurse Disaster Preparedness

Disaster preparedness in nursing is a multifaceted and critical concept vital for maintaining public health and safety during crises. It enables nurses to provide essential medical care, reduce suffering, and save lives. Healthcare organizations, governments, and professional nursing associations support and promote nurse disaster preparedness through education, training, and resource allocation, ensuring nurses can effectively respond to various disaster scenarios (Veenema, 2018).

The literature reveals the absence of a single, universally accepted definition of disaster preparedness in nursing. This lack of standardization leads to variability in how the concept is understood and applied in research and practice (McNeill et al., 2020; Pourvakhshoori et al., 2017; Veenema et al., 2016).

Disaster preparedness in nursing encompasses various dimensions, each highlighting different aspects of the concept. Pourvakhshoori et al. (2017) define

disaster preparedness as the combination of awareness, abilities, and comprehensive utilities necessary for nurses to respond effectively to emergencies, whether natural or human-induced. This definition underscores the need for a broad skill set and a comprehensive approach. McNeill et al. (2020) emphasize the information and skills essential for providing care after a disaster, highlighting the need for nurses to be equipped with knowledge and competencies to deliver care under challenging conditions.

Viewed as a proactive endeavor, disaster preparedness involves efforts made before a disaster occurs to establish a response system that actively engages nurses, including their participation in planning, coordination, and implementation (Veenema et al., 2016).

Recognizing the dynamic nature of disaster preparedness, it is acknowledged as an ongoing, evolving process. Continual adaptation is crucial to responding effectively to changes in the environment, staffing, technology, and information (Songwathana & Timalsina, 2021). However, operationalizing disaster preparedness in nursing poses challenges due to the diversity of definitions. Researchers employ various approaches and tools, making cross-study comparisons difficult.

Some studies assess nurses' disaster-related core abilities, delving into their confidence and competence in handling disaster situations (Alan et al., 2022). Others focus on evaluating nurses' knowledge, skills, and perspectives regarding disaster response and administration, encompassing their overall competence in disaster preparedness (Öztekin et al., 2016).

Researchers also explore nurses' perceived readiness to cope with disaster circumstances, investigating how nurses feel about their ability to respond effectively to disasters (Labrague et al., 2016). Another approach involves measuring nurses'

attitudes and willingness to engage in disaster preparedness activities and evaluating their beliefs and motivations (Alzahrani & Kyratsis, 2017). This diversity in approaches underscores the complexity of capturing the multifaceted dimensions of disaster preparedness within the nursing profession.

2.6 Disaster Preparedness Levels in Nurses

A systematic review revealed that nurses often lack knowledge about general disasters, policies, plans, hospital roles during disasters, and their own responsibilities (Said & Chiang, 2020). Another review found that nurses' knowledge and perceptions of disaster preparedness were typically weak to average or low to moderate. Understanding of disaster preparedness, particularly in terms of skills, roles, and reactions to disasters, ranged from poor to intermediate (Songwathana & Timalisina, 2021). Additionally, nurses often feel inadequately prepared and lack confidence in their ability to respond effectively to disasters (Labrague et al., 2018).

Studies from various countries indicate a low level of disaster preparedness among nurses. For example, a US study highlighted significant weaknesses in nurses' professional emergency preparedness (McNeill et al., 2020). Similarly, a Swedish study found that nurses' overall disaster competency was low (Murphy et al., 2021). In Indonesia, nurses did not fully understand their responsibilities during disasters and lacked confidence in handling patients with both physical and mental trauma (Martono et al., 2019).

The low level of disaster preparedness has been attributed to a lack of awareness of disaster management plans, insufficient disaster training programs in hospitals, and limited inclusion of disaster management in nursing curricula and hospital protocols (Abuadas & Albikawi, 2022; Alan et al., 2022; McNeill et al.,

2020). However, some studies found that nurses had a moderate level of disaster preparedness readiness for disasters (Abuadas & Albikawi, 2022; Alan et al., 2022; Rizqillah & Suna, 2018; Usher et al., 2015). These differences in preparedness levels may be due to global initiatives aimed at improving disaster preparedness, as well as the influence of various personal and organizational factors. Additionally, the differences in disaster preparedness between studies may result from using different tools to measure preparedness.

Additionally, nurses may overestimate their competence and ability to manage disasters, as shown in a Swedish study. This overestimation could stem from a lack of adequate awareness due to little or no experience with disasters (Murphy et al., 2021). Conversely, some evidence suggests that nurses might underestimate their abilities. For instance, despite acute care personnel's poor self-reported preparation, a New Zealand study found that healthcare services responded well during the Canterbury earthquakes in 2010 and 2011 (Al-Shaqsi et al., 2013).

Studies reveal that nurses score differently on various aspects of disaster preparedness competencies and skills, highlighting strengths and weaknesses in their disaster preparedness. These results vary between countries and organizations. For example, a Turkish study showed that nurses performed only average on a subscale related to specific diagnostic skills (Alan et al., 2022). Another Turkish study by Taskiran and Baykal (2019) found the lowest scores for critical thinking skills. A review indicated that nurses score low on thinking abilities and distinct analytic skills but high on general diagnostic and technical skills (Labrague et al., 2018). Similarly, a US study identified strengths and weaknesses in nurses' preparedness, with the highest scores in "triage and basic first aid" and the lowest in "accessing critical resources and reporting" (McNeill et al., 2020).

2.7 Psychological Preparedness for Disaster

2.7.1 The Importance of Psychological Preparedness

The importance of psychological disaster preparedness cannot be overstated, particularly in the context of disasters. Disasters often give rise to numerous psychological challenges, leading to traumatic stress reactions. This can result in a significant mental health burden, impacting psychosocial well-being and potentially causing conditions like depression, anxiety, and post-traumatic stress disorder (PTSD) (Schwartz et al., 2015).

Survivors of disasters frequently grapple with feelings of grief, sadness, anxiety, and depression. They may also experience difficulties sleeping, focusing, making decisions, and setting priorities. Interestingly, the psychological toll of disasters can often outweigh the physical harm caused by such events (Sim & Wang, 2021).

Recently, there has been a growing focus on the concept of psychological preparedness for disaster events. Disasters induce stress, which, to a certain extent, is a natural response that serves a protective function. However, excessive stress can become maladaptive. It can significantly affect cognitive performance, including risk perception, decision-making, attention, memory, and concentration, ultimately impacting behavior (Makwana, 2019).

Psychological preparedness, therefore, plays a crucial role in enabling individuals to cope with the psychological and emotional aspects of threatening situations. Its primary aim is to manage stress responses, ensuring that cognitive function and behavioral performance are maintained while reducing associated risks. In high-stress situations, elevated stress levels can have a profound influence on

cognitive and behavioral performance. Thus, preparing for stress is essential as it helps mitigate the impact of emotions on performance (Said & Chiang, 2020).

Studies have shown that higher levels of psychological or mental preparedness are associated with greater disaster preparedness, better stress management during disaster events, and a reduced likelihood of experiencing mental health issues in the aftermath (Boylan & Lawrence, 2020). This underlines the significance of psychological preparedness as an integral component of disaster readiness and recovery.

2.7.2 Conceptualization of Psychological Preparedness

The conceptualizations of psychological preparedness for disasters exhibit significant variation. These conceptualizations range from broad, overarching definitions to more specific and systematically developed ones. Some definitions take a broad perspective, such as Clode's (2010), which posits that psychological preparedness forms the foundation for physical preparedness. In this view, being psychologically prepared catalyzes for individuals to make physical preparations and plan for their survival. On the other hand, more specific definitions, such as the one proposed by Paton et al. (2015), zoom in on the psychological aspects of coping with disasters, including adapting to changes in living conditions and addressing the loss of social relationships and livelihood disruptions.

Within the literature, there are also well-structured definitions of psychological preparedness. For instance, Boylan (2016) delineated psychological preparedness using five key elements: bushfire knowledge, coping self-efficacy, proactivity, optimism, and social support. Another definition, as outlined by Zulch (2019), highlights the heightened state of awareness, anticipation, and readiness

concerning the potential threat, one's psychological response to unfolding threat situations, and the ability to manage the demands of the situation.

A literature review reveals numerous other definitions, primarily focused on explaining the essence of psychological preparedness and why it is vital. Most of these definitions underscore the significance of psychological preparedness in helping individuals manage their emotional responses, ultimately enabling them to take protective actions. Nine of these descriptions appear to align with the stress inoculation approach. The variations in these definitions hinge on the types of elements used to describe psychological preparedness, including competencies, learned processes (e.g., stress management), collections of psychological components (e.g., confidence), psychological factors influencing physical preparedness, risk awareness, understanding psychological strain, emotional control, and cognitive processes linked to physical preparedness, such as practiced plans (Boylan & Lawrence, 2020).

Collectively, these definitions suggest that psychological preparedness is a multidimensional construct. These multiple attributes can be summarized as follows: 1) the perception of control over one's coping ability; 2) the perception of control over environmental outcomes; 3) a general understanding of the risk context; and 4) proactive planning and preparation for potential threats (Boylan & Lawrence, 2020).

Moreover, reviews by Boylan (2016) and Suhaimi and Marzuki (2016) imply that psychological preparedness generally encompasses two broad mental dimensions or domains. The first is predominantly cognitive, focusing on the threat and involving knowledge of the threat situation, the environment, and adaptive responses. The second is primarily affective, emphasizing self-awareness, self-understanding, and emotion regulation.

An additional source agrees with this perspective, suggesting that psychological preparedness comprises two main mental components: An affective aspect involving self-awareness, understanding, and emotion control, and a cognitive aspect targeted at the threat, encompassing knowledge of the threat scenario, the environment, and adaptive responses (McLennan et al., 2020). This definition is adopted for the present study.

It is crucial to note that despite the growing acknowledgment of the importance of psychological disaster preparedness, there is currently no widely accepted measure for assessing it. This indicates that the field of psychological disaster preparedness remains relatively underexplored, leaving ample room for further research and development in this area.

2.7.3 Psychological Preparedness in the Context of Nursing

Nurses, often the first responders to disasters, find themselves caring for patients with various levels and types of trauma. Witnessing the suffering and loss of life can lead to nurses experiencing anxiety, dread, and a range of negative emotions (Lorente et al., 2021). Additionally, they may have to work in chaotic environments with limited resources, requiring a high level of skills to provide not only appropriate medical care but also crucial psychological support to both victims and themselves. Consequently, nurses involved in disaster care can undergo significant psychological stress (Said & Chiang, 2020; Shipman et al., 2016). This underscores the importance of nurses being psychologically prepared before engaging in disaster relief efforts to ensure their effectiveness (Loke & Fung, 2014). Furthermore, psychological disaster preparedness is essential to mitigate the psychological impact on nurses who confront intense stress (Morrissey & Reser, 2023).

Effective disaster preparedness extends beyond physical readiness and encompasses a psychological component. The integration of psychological preparedness into existing disaster preparedness policies and practices can help individuals cope with the psychological distress they may experience during or after a disaster and contribute to long-term resilience. Strengthening disaster management practices as a whole involves incorporating elements of psychological preparedness into disaster preparedness measures (Zulch, 2019).

Psychosocial aspects of nursing preparedness should be an integral part of any disaster plan. However, there is a noticeable shortage of studies on the topic of the psychological preparedness of health professionals responding to disasters. While general disaster preparedness levels tend to be moderate, the psychological aspects of preparedness have received limited attention. There is limited research on identifying the elements that constitute disaster-related psychological preparedness in nurses.

It is worth noting that some publications make a distinction between personal and professional disaster preparedness, although these two concepts are closely intertwined (McNeill et al., 2020). For instance, in a U.S. study, personal disaster preparedness was defined as readiness for emergencies in various settings, including home, cars, or any other place where individuals spend their time (McNeill et al., 2020). Professional competence for disaster response, on the other hand, was defined as the disaster-related knowledge and competencies necessary for professional readiness in disaster response. It is believed that personal preparedness for disasters can help reduce obstacles to returning to work following such an event (Lam et al., 2018; McNeill et al., 2020).

Recent studies have delved into the realm of psychological disaster preparedness among nurses. For example, an Indian study found that nurses exhibited

moderate psychological preparedness during the management of COVID-19 (Gandhi et al., 2021). Similarly, an international cross-sectional study assessing nurses' psychological readiness for disaster relief revealed a moderate level of preparedness (Said et al., 2020). This emerging body of research sheds light on the crucial importance of psychological preparedness in the context of disaster response among nursing professionals.

2.8 Factors Associated with Disaster Preparedness in Nurses

2.8.1 Resilience

In nursing research, nurse resilience is receiving more and more attention. Resilience is the capacity for people to recover or to function well under challenging conditions. It has been said that resilience is both a dynamic process and a personality trait. One's capacity to bounce back fast and effortlessly from setbacks that occur in life is described by this idea. Strength is a recurring motif in the various definitions of resilience, and those who are claimed to be resilient are thought to be able to persevere in getting beyond difficult challenges (Hart et al., 2014; Yilmaz, 2017). According to Huey and Palaganas (2020), resilience is the ability to thrive in the face of challenges.

Resilience is a multifaceted notion that can be influenced by a variety of situations. Individual, environmental, and organizational factors, such as workplace culture, can all have an impact on resilience (Huey & Palaganas, 2020). It is thought that cognitive and behavioral therapies can help people learn how to be resilient. Positive coping techniques, enlisting the assistance of others, optimism, humor, and cognitive restructuring are among the psychological traits of resilience that can be learned (Mealer et al., 2017).

Given how stressful nursing is, resilience has been recognized as a crucial trait for nurses. According to studies, resilient nurses are more likely to stay in the profession than healthy nurses and are less likely to experience stress-related diseases (Turner, 2014). Nurses may be forced to labor incompetently in a disordered setting with few resources and may go through intense psychological pressure in a disaster (Said & Chiang, 2020). Having conflicting obligations (i.e., family vs. work) is another powerful stressor (Grochtdreis et al., 2017). The defensive character of individual resilience in nursing throughout disasters is highlighted by recent studies. For nurses to respond to psychological risks and tragedies successfully, resilience is crucial (Hart et al., 2014; Turner, 2015).

A common structural uniqueness, drive, and standards; shared support and faith; role litness; dynamic problem resolution; common administration; and ability development were characteristics of teams with resilience-oriented behaviors. High levels of psychological resilience were discovered in Turner's (2015) research of nurses working in hurricane disaster response teams. The psychological toughness of nurses during the COVID-19 crisis was also above normal, according to a Turkish study (Alan et al., 2022). The psychological resilience of nurses during the COVID-19 pandemic was, however, determined to be below average by Ou et al. in 2021 (Ou et al., 2021). The differences in resilience may be explained by differences between individuals as well as by environmental and organizational factors (Huey & Palaganas, 2020).

Leadership seems to play a critical role in building resilience in nurses. Madrigano et al. (2017) described the characteristics of resilience-oriented leadership. A common organizational identity, purpose, and values; mutual support and trust; role flexibility; active problem resolution; self-reflection; shared leadership; and skill

development were characteristics of teams with resilience-oriented behaviors. Horizontal leadership, trust, and cooperation among the team were also found to facilitate resilience in disaster response.

Resilience in nurses may influence their preparedness for disasters. Despite their training, nurses may not be able to offer the emergency treatment that is required in disasters, if they have low resilience. However, little is known regarding the association between these two concepts. This association was explored only in a Turkish study. In this study, a positive association was found between nurses' resilience and their perceptions of disaster core competencies ($r = 0.408$, $p < 0.001$). In the same study, the resilience subscale that had the strongest relationship with nurses' perceptions of disaster competencies was that of tenacity and personal competence, while the disaster core competency subscale that had the strongest relationship with resilience was that of technical skills (Alan et al., 2022).

There is evidence of an association between resilience and psychological disaster preparedness in nurses. However, this evidence is very limited. Thus, an Indian study by Gandhi et al. (2021) explored the perceptions of nurses regarding their psychological preparedness for managing the COVID-19 pandemic. The COVID-19 pandemic posed unprecedented challenges to healthcare professionals globally, thrusting them into situations where they had to make extraordinarily tough decisions and endure immense pressure. Some individuals may have found it particularly challenging to cope with such circumstances effectively.

The study by Gandhi et al. (2021) uncovered a noteworthy relationship between several key factors: Psychological preparedness, self-efficacy, optimism, and resilience. These factors exhibited positive correlations with each other, indicating that they were interlinked. Furthermore, the study's findings pointed to self-efficacy,

optimism, and resilience as significant predictors of psychological preparedness among nurses.

To underscore the impact of these factors, the study employed multiple linear regression analysis. The results were striking, revealing that self-efficacy, optimism, and resilience collectively accounted for a substantial 62% of the variance in psychological preparedness. This indicates that individuals possessing higher levels of self-efficacy, optimism, and resilience were more likely to be well-prepared psychologically for managing a pandemic.

The crucial role of resilience is particularly highlighted in this context. Resilience, which is the ability to bounce back from adversity and maintain mental and emotional well-being, appears to play a pivotal role in helping individuals navigate and cope with difficult situations. In the case of healthcare professionals, including nurses, this enhanced psychological preparedness not only assists them in addressing the ongoing pandemic but also contributes to the overall effectiveness and success of pandemic management.

In essence, the study by Gandhi et al. (2021) underscores the significance of resilience, self-efficacy, and optimism in bolstering psychological preparedness, ultimately enhancing healthcare professionals' ability to manage crises like the COVID-19 pandemic more effectively. This insight holds substantial implications for the support and training of healthcare workers in times of unprecedented challenges.

2.8.3 Personality Traits

It has been previously suggested that personality variables including self-efficacy, dispositional optimism, trait anxiety, and self-esteem are key variables in the assessment of psychological preparedness (Malkina-Pykh & Pykh, 2015). The roles of dispositional optimism and trait anxiety in the context of nurses coping with

challenging situations have been explored in several studies (e.g., Özçevik Subaşı et al., 2021; Schug et al., 2021). Personality traits, such as dispositional optimism and trait anxiety, are of particular interest when examining how nurses handle adversarial situations. Trait anxiety represents an enduring disposition towards experiencing anxiety, while state anxiety is the acute anxiety experienced when confronting a challenging situation (Spielberger et al., 1983). Dispositional optimism, on the other hand, is a broader and relatively enduring inclination to anticipate positive outcomes in various life domains (Scheier & Carver, 2018).

It is important to note that while trait anxiety may have adverse effects on individuals when they encounter traumatic incidents (Short et al., 2022), dispositional optimism can serve as a protective factor against the negative repercussions of such experiences (Cruz et al., 2018). In simpler terms, the research suggests that personality variables such as optimism and anxiety tendencies are disaster preparedness in assessing one's psychological preparedness. For nurses, understanding how dispositional optimism can act as a buffer against the negative impacts of traumatic experiences, as opposed to trait anxiety, is crucial. In the face of challenging situations, nurses with a more optimistic disposition may be better equipped to navigate and cope with the difficulties they encounter (Cooper et al., 2020).

Limited inquiry has been conducted on the personality factors associated with psychological disaster preparedness in nurses. However, several recent studies found an association between nurses' personality traits and their psychological disaster preparedness. Thus, in a study conducted by Gandhi et al. (2021), nurses' perceptions of their psychological preparedness during the COVID-19 pandemic were explored. The pandemic presented healthcare professionals with unprecedented challenges,

forcing them to make incredibly difficult decisions and endure extreme pressures, which not everyone can handle effectively. The study revealed that a high level of optimism was a predictor of increased psychological preparedness among nurses. Optimism was linked to a positive relationship with adaptive coping, potentially leading to enhanced cognitive and emotional functioning. This, in turn, might result in lower psychological distress and greater resilience against the psychological aftermath of a disaster.

Another international cross-sectional study, as discussed by Said et al. (2020), demonstrated a moderate association between dispositional optimism and self-esteem of nurses with psychological preparedness. This association was linked to a reduced propensity for neuroticism, resulting in lower emotional intensity and anxiety. Furthermore, optimism was shown to contribute to lower levels of anxiety and depression, fostering a positive relationship with coping strategies and enhancing cognitive and emotional functions. Additionally, the same study found a negative correlation between psychological preparedness and trait anxiety, indicating that individuals with higher trait anxiety might be more negatively affected by traumatic events.

Zulch (2019) proposed that several factors may mediate or moderate psychological preparedness in a disaster context. These factors encompass individual or dispositional qualities, such as resilience, low to moderate trait anxiety, and self-efficacy, which enhance one's ability to perform effectively and maintain psychological equilibrium during emergencies. Situational factors, including preparedness, access to social and psychological support networks, active engagement with others in addressing emergencies, and residence in self-reliant communities

characterized by collective coping responses, also play a significant role in promoting psychological preparedness.

Notably, there has been limited research exploring how nurses' personality traits influence their capacity to be well-prepared for emergencies. However, the existing studies suggest that personality factors, particularly dispositional optimism, self-esteem, and trait anxiety, can significantly impact their psychological preparedness, ultimately affecting their ability to effectively manage crises.

2.8.4 Organizational Factors

Nurses' work environment has a significant impact on various outcomes such as job performance and productivity (Wei et al., 2018). Accordingly, it can be assumed that organizational factors, such as quality of leadership, collegial relationships, as well as policy-making may play a role in nurses' disaster preparedness. However, only a limited number of studies have explored the role of organizational factors in nurses' disaster preparedness.

2.8.4.1 Leadership. Effective leadership is pivotal in guiding and coordinating response efforts during chaotic and challenging situations. Leaders are tasked with translating disaster management plans into actionable responses, fostering collaboration among personnel to achieve common objectives, and ensuring the efficient allocation of resources to meet surging demands. Strong leadership, coupled with trust, is often the linchpin of successful response efforts (Lim et al., 2020).

Nurses, as integral members of the healthcare workforce, have emphasized the critical importance of leadership quality in determining their commitment to responding to disasters (Al Harthi et al., 2020). In disaster scenarios, the complex interplay of heightened stress levels, information overload, chaotic conditions, potential service disruptions, a surge in casualties, and crowd-related distractions can

significantly impede the effectiveness of hospital responses. In such trying circumstances, leaders are expected to assume control, making timely and critical decisions to manage the situation. Effective leaders possess the skills, abilities, and personal traits necessary to plan for, respond to, and learn from critical events (Bhaduri, 2019).

A study conducted by Lim et al. (2020) in China sought to explore the impact of disaster management preparedness, leadership, and group integration on response readiness, particularly in the context of earthquake response. The findings of this study underscored the vital role of disaster management preparedness, demonstrating a significantly positive influence on response readiness. Additionally, the study revealed that leadership quality had a substantial impact on group integration, which, in turn, significantly mediated the relationship between management preparedness and response readiness.

Similarly, a study among Saudi Arabian nurses discovered a statistically significant relationship between leadership potential and team support and disaster preparedness. The perceived standard of nursing care in the workplace and nurses' involvement in the workplace have both been proven to be additional organizational characteristics that predict nurses' readiness for disasters (Abuadas & Albikawi, 2022). Furthermore, the study by Hutchison (2017) found that confidence in the workplace and the work environment (i.e., leadership support, personnel and resource availability, and the existence of a disaster management plan) were major factors in improving disaster preparedness.

A study conducted in Hong Kong by Lam et al. (2018) underscores the significance of organizational factors in the disaster preparedness of ED nurses. This study revealed a noteworthy correlation: ED nurses who reported a high level of

personal preparedness also perceived a high level of workplace preparedness. This finding suggests that the confidence and sense of security that ED staff feel in their workplace environment play a pivotal role in shaping their perception of personal preparedness. In essence, when nurses have faith in the readiness and effectiveness of their workplace, it significantly influences their own sense of readiness for disaster response.

2.8.4.2 Collegial Relationships. Nurses are inherently team-oriented professionals, and this collaborative spirit becomes especially crucial during disaster events, where interdisciplinary teamwork is vital (Grochtdreis et al., 2017). However, limited attention has been given to the influence of collegial relationships on nurses' disaster preparedness.

According to Al Harthi et al., (2020), the desire of nurses to report for duty during a disaster is significantly shaped by the strength of their collegial bonds. Knowing that their colleagues are committed to the team and won't shirk their responsibilities is a powerful motivator. Confidence in their colleagues' dedication and their ability to work effectively as a team encourages nurses to be ready to respond. This collective commitment to a shared goal becomes a driving force, urging them to work together seamlessly in the face of adversity.

Moreover, nurses' perceptions of their colleagues' preparedness for disaster response play a crucial role in their own readiness. When they are aware that their colleagues are well-versed in emergency procedures and competent in managing critical situations, it instills a sense of confidence and support. This is particularly valuable for junior nurses, who can look up to their senior counterparts with greater experience and self-assurance. In such cases, the willingness of senior nurses to take

charge and provide guidance sets a positive example, making it easier for junior nurses to follow their lead (Al Harthi et al., 2020).

In summary, the strength of collegial relationships among nurses can significantly influence their disaster preparedness. Trust in the commitment and abilities of their colleagues fosters a sense of unity and motivates nurses to be ready to respond effectively in disaster situations. Additionally, when nurses have confidence in the preparedness of their colleagues, it enhances their overall readiness and provides valuable support, especially for less experienced members of the nursing team

2.8.4.3 Policy-making. Several studies have shed light on the differences in disaster knowledge based on hospital type and the possible influence of government policies. Thus, in a study conducted in Nepal, it became evident that nurses employed in government and non-government hospitals possessed significantly different levels of disaster knowledge. Specifically, nurses in public sector hospitals exhibited a moderate understanding of disasters, while their counterparts in private facilities had a more limited grasp of the subject. This divergence can be attributed to the fact that national-level training programs tend to prioritize government hospital staff. It seems that policymakers primarily rely on government hospitals to be at the forefront of disaster response, thus ensuring that staff in these hospitals receive adequate training. Another contributing factor may be the discrepancy in nurses' prior experience with disaster care, with those in government hospitals having more exposure to such situations (Basnet et al., 2016).

However, when examining disaster knowledge among nurses in Jordan and Saudi Arabia, a different trend emerged. Nursing staff in military and university hospitals exhibited higher levels of disaster knowledge compared to their counterparts

in government hospitals. This variation could be attributed to the rigorous and frequent training requirements mandated by healthcare policies targeting military hospitals. Additionally, in regions exposed to conflicts, war, and terrorism, nurses may have access to more resources and practical experience related to disaster care, which can significantly enhance their knowledge (Al Thobaity et al., 2015). Of note, there is a lack of research on the role of organizational factors in psychological disaster preparedness in nurses.

2.8.5 Nurses' Personal and Professional Characteristics

Several studies have shed light on the personal and professional factors that impact nurses' disaster preparedness. For instance, age, marital status, the number of children, and gender have been linked to disaster preparedness (Taskiran & Baykal, 2019). Additionally, professional experience, position within the healthcare system, clinical experience, and higher levels of education are among the factors associated with enhanced disaster preparedness (Alan et al., 2022; Rizqillah & Suna, 2018; Taskiran & Baykal, 2019).

One possible explanation for these associations is the accumulation of life experiences, professional expertise, and the maturation that comes with age. As nurses gain more experience and years in their profession, their critical thinking and communication skills tend to improve. This enhanced skill set can contribute to a higher level of disaster preparedness, allowing them to effectively handle challenging situations (Taskiran & Baykal, 2019).

In terms of professional positions, nurse managers and emergency nurses often exhibit a higher level of competency and readiness for disasters. Nurse managers, typically older and more experienced, are expected to act as leaders during crises, overseeing their colleagues' care for victims. This added responsibility and experience

make them feel more competent in disaster situations. Emergency nurses, on the other hand, encounter mass casualty incidents and smaller disaster events more frequently, providing them with practical experience that contributes to their heightened level of preparedness (Taskiran & Baykal, 2019).

Moreover, clinical experience and advanced education have been found to positively correlate with disaster preparedness. An advanced degree and relevant clinical experience not only enhance competence but also boost perceived disaster preparedness (Alan et al., 2022; Murphy et al., 2021). Interestingly, one study highlighted a paradoxical finding: while having an advanced degree was positively linked to higher competence, formal disaster medicine education showed a negative association. This might be explained by participants overestimating their abilities due to a lack of awareness or, conversely, by those with greater expertise more accurately assessing their capabilities. This reflects earlier research that shows more accurate self-assessments are linked to higher expertise (Murphy et al., 2021).

In the realm of psychological disaster preparedness, a study by Said et al. (2020) uncovered that female nurses tend to exhibit higher psychological preparedness than their male counterparts. This could be attributed to several factors, including the greater dispositional optimism of female nurses, their tendency to be more open and willing to share their thoughts and feelings with others, and their active seeking of advice and support, which can alleviate PTSD and anxiety. In contrast, some male nurses may be inclined to keep their emotions and thoughts to themselves, opting to solve problems independently. It is worth noting that female nurses in the study had received more disaster relief experiences and training, which played a role in boosting self-efficacy, dispositional optimism, and self-esteem,

ultimately contributing to their enhanced psychological preparedness (Said et al., 2020).

Additionally, Said et al. (2020) found that nurses' psychological disaster preparedness was positively associated with older age, more years of experience, and a history of responding to disasters. This implies that older nurses with extended experience in the field are more likely to encounter emergencies and thus acquire the knowledge and skills needed to effectively manage them. Similarly, previous research conducted among the general population has suggested that older individuals are less likely to face barriers to disaster preparedness. Older individuals often possess prior disaster experiences, which help them understand the risks, develop resilience, and know how to prepare effectively (Cong et al., 2021).

In conclusion, various personal and professional factors influence nurses' disaster preparedness. Accumulated experience, advanced education, and a willingness to engage with colleagues and seek support play essential roles in enhancing preparedness. These findings provide valuable insights into how healthcare institutions can better prepare and support their nursing staff in disaster situations.

2.10 Theoretical Framework

This study is grounded and based on theoretical variables that emerged from the literature review as significant factors that affect nurses' disaster preparedness. This framework stands as a guiding structure, providing a systematic and organized approach to delve into the intricate dynamics of nurses' disaster preparedness in the present study.

The conceptual framework integrates the various factors discussed in the literature, highlighting the interconnections between education, training, disaster-related experiences, resilience, leadership, collegial relationships, personality traits,

and personal/professional characteristics in shaping both disaster preparedness and psychological disaster preparedness among nurses. The conceptual framework presents key variables and their associations with other variables in the context of disaster preparedness among nurses. The framework highlights the intricate nature of disaster preparedness, emphasizing the significance of encompassing a diverse array of factors in the discourse on nurses' preparedness for disasters.

The interrelationships between various factors and nurses' disaster preparedness are multifaceted, with distinct patterns emerging across different dimensions. Education and training constitute pivotal elements, where disaster management education and training, along with disaster-related experiences, significantly enhance nurses' disaster preparedness (Labrague et al., 2018; Songwathana & Timalisina, 2021). Notably, active involvement in the crisis process, exposure to disasters, recent disaster training, and participation in disaster exercises are positively correlated with the acquisition of key disaster skills (Al-Ali & Ibaid, 2015; Alan et al., 2022; Rizqillah & Suna, 2018;). Furthermore, psychological disaster preparedness is positively associated with the frequency of nurses' responses to disasters (Said et al., 2020), and disaster training is positively linked to preparedness among nurses in different regions, emphasizing its critical role (Murphy et al., 2021; Usher et al., 2015).

Resilience emerges as a key determinant, enabling nurses to effectively cope with the stress and challenges inherent in disaster situations (Hart et al., 2014; Turner, 2014). Resilient nurses demonstrate higher retention rates in the profession, experience fewer stress-related issues, and exhibit adept responses to psychological risks during disasters (Alan et al., 2022; Said & Chiang, 2020). The tenacity and personal competence integral to resilience contribute significantly to psychological

disaster preparedness (Alan et al., 2022). Additionally, leadership plays a critical role in building resilience among nursing teams (Madrigano et al., 2017).

Personality traits, including dispositional optimism and trait anxiety, assume a pivotal role in assessing psychological preparedness among nurses (Malkina-Pykh & Pykh, 2015). Optimism is positively associated with increased psychological preparedness among nurses, acting as a predictor along with self-efficacy and resilience (Gandhi et al., 2021; Said et al., 2020). Dispositional optimism serves as a protective factor against the negative impacts of traumatic experiences, while trait anxiety may exert adverse effects (Said et al., 2020; Scheier & Carver, 2018).

Organizational factors, encompassing effective leadership, workplace confidence, and disaster management plans, positively influence nurses' disaster preparedness (Abuadas & Albikawi, 2022; Hutchison, 2017; Lim et al., 2020). Collegial relationships within the workplace significantly impact disaster preparedness, fostering unity and motivation (Al Harthi et al., 2020). However, limited research exists on the role of organizational factors in psychological disaster preparedness for nurses.

Personal and professional characteristics, ranging from age and marital status to clinical experience and higher education, are associated with enhanced disaster preparedness (Alan et al., 2022; Said et al., 2020; Taskiran & Baykal, 2019). Female nurses, in particular, tend to exhibit higher psychological preparedness, linked to dispositional optimism, openness, and an active seeking of support (Said et al., 2020). Older age, increased years of experience, and a history of responding to disasters positively correlate with psychological disaster preparedness (Said et al., 2020).

To summarize, the conceptual framework encompasses diverse variables to elucidate their influence on nurses' disaster preparedness. The variables include

disaster education and training, as well as related experiences. Resilience emerges as a vital category, crucial for nurses to navigate stress and challenges in disasters, potentially affecting disaster preparedness. Personality traits, specifically dispositional optimism and trait anxiety, are additional key factors potentially influencing psychological preparedness. In addition, the conceptual framework includes organizational factors of the nurses' workplace, such as effective leadership and collegial relationships that have been recognized as external drivers shaping preparedness positively. Lastly, the conceptual framework includes nurses' personal and professional characteristics, such as age and professional experience, acknowledging their potential impact on disaster preparedness.

Based on the literature review and conceptual variables, a research model is presented that explains the network of relationships describing the research objectives and hypotheses.

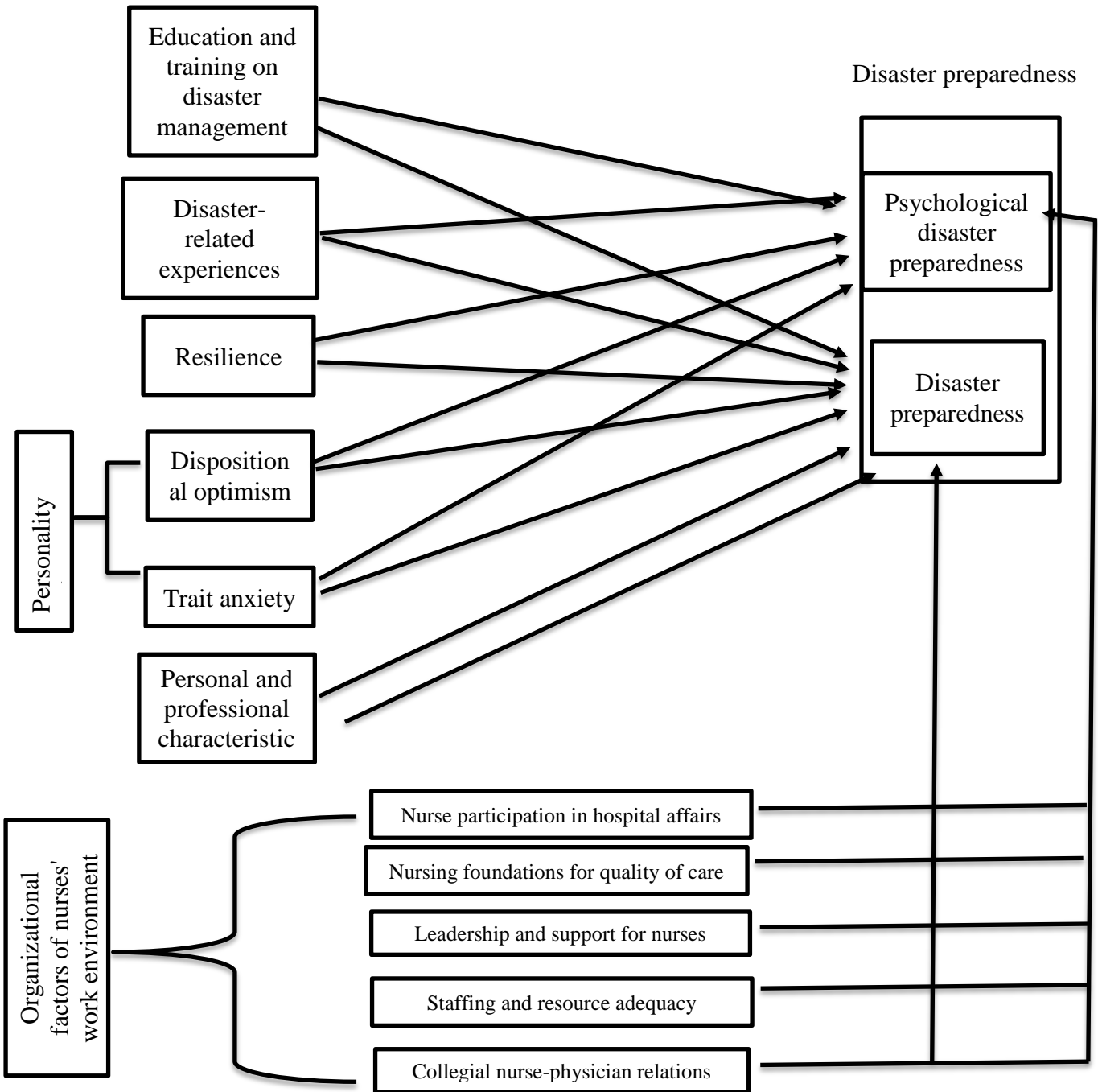


Figure 2: The Conceptual Framework

2.10.2 Summary

This literature review highlighted the multifaceted concept of disaster preparedness in nursing, focusing on both disaster preparedness and psychological preparedness. Nurses' disaster preparedness is shaped by a combination of education and training, disaster-related experience, resilience, personality traits, organizational support, and personal and professional characteristics. Understanding and addressing these factors can significantly enhance nurses' readiness to respond effectively during disasters, ultimately improving patient outcomes and the resilience of healthcare systems.

Despite the global recognition of the critical role nurses play in disaster response and the ongoing efforts to enhance disaster preparedness among healthcare professionals, significant gaps persist in the literature regarding disaster preparedness in nurses. While existing research has shed light on the multifaceted nature of disaster preparedness, focusing on both disaster preparedness and psychological dimensions, several key gaps remain unaddressed.

One notable gap is the lack of comprehensive studies examining the specific factors influencing nurses' disaster preparedness, particularly in regions with limited research, such as the Middle East. While some initiatives have been undertaken to enhance disaster preparedness among nurses in these regions, empirical evidence regarding the effectiveness of these efforts and their theoretical underpinnings is scarce. Furthermore, there is a dearth of research exploring the impact of organizational factors, such as leadership support and work environment, on nurses' disaster preparedness.

Additionally, the literature lacks in-depth investigations into the role of resilience and personality traits, such as dispositional optimism and trait anxiety, in

shaping nurses' disaster preparedness. Understanding how these individual characteristics intersect with organizational factors to influence preparedness is essential for developing targeted interventions and training programs that effectively support nurses in disaster situations.

Moreover, there is a need for studies that specifically focus on disaster preparedness among nurses in the Arab region. Despite the unique challenges and characteristics of this region, research in this area remains limited. By exploring the specific factors influencing disaster preparedness among Arab nurses, such studies can provide valuable insights into tailoring preparedness strategies to meet the needs of this population.

Overall, addressing these gaps in the literature is crucial for advancing the understanding of disaster preparedness in nurses and developing evidence-based interventions to enhance their readiness and resilience in disaster situations. By filling these gaps, researchers can contribute to more effective disaster management strategies and better preparedness among nurses, ultimately improving patient outcomes and healthcare system resilience.

The chapter concluded by presenting the study's conceptual framework, which offers a structured approach to examining nurses' disaster preparedness, encompassing factors such as disaster education and training, resilience, personality traits, organizational factors, and personal and professional characteristics. It emphasizes the interconnected nature of these elements and underscores the need for a holistic understanding of the complexities influencing nurses' preparedness for disasters. The conceptual and operational definitions of the key study variables were presented. The next chapter will introduce research evidence and identify gaps in the literature related to nurses' disaster preparedness.

Chapter Three

Methodology

3.1 Introduction

This chapter delves into the methodology employed for the study, elucidating the reasoning behind its design. It elaborates on the selected setting, the target population, and the sampling methodology. Ethical considerations are addressed, including an exploration of the study instruments and an evaluation of their psychometric reliability. Additionally, a pilot study is outlined. The chapter also details the procedures for data collection across various phases of the study and elucidates the methods for data handling and analysis.

3.2 Study Design

A quantitative cross-sectional design was used for this study. A cross-sectional method was chosen to enable the identification of the relative contribution of various factors to the phenomenon under study, as well as their interrelations (Wang & Cheng, 2020).

The selection of a cross-sectional design for this study examining associations between nurses' resilience, personality traits, organizational factors, and disaster preparedness is strategically advantageous. This design offers efficiency in data collection, providing a snapshot of relationships at a specific moment and allowing for large-scale generalizability of findings (Connelly, 2016). The ability to employ statistical analyses facilitates a quantitative understanding of the strength and direction of associations, while comparisons across subgroups within the sample add depth to the investigation. The temporal neutrality of cross-sectional studies suits the aim of exploring predictors without the need for longitudinal tracking, contributing to

resource efficiency. Moreover, the objective measurement inherent in this design, using standardized instruments, enhances the reliability of the study's outcomes. Overall, the quantitative cross-sectional approach proves practical, robust, and well-aligned with the research objectives, offering a comprehensive understanding of the multifaceted relationships among the variables of interest in the nursing context (Wang & Cheng, 2020).

3.3 Setting

Hillel Yaffe Medical Center is a level-three hospital with a 600-bed capacity located in northern-central Israel. The selection of Hillel Yaffe Medical Center was made since it is one of the top facilities in the nation when called upon for emergency tasks. The Supreme Authority for Hospitalization, the Emergency Wing of the Ministry of Health, and the IDF Medical Corps all place special tasks on the hospital during times of emergency. Comprehensive training exercises for receiving and caring for the injured in instances involving numerous injured persons or victims of chemical warfare are occasionally held. Hillel Yaffe Medical Center receives a lot of trauma patients, is situated at the crossroads of two important highways (Route 2 and Route 4), is near Route 6, and it is a governmental hospital. The hospital employs 600 registered nurses (Hillel Yaffe, 2023).

3.4 Population

The target population of this study included all registered nurses working in all medical centers in Israel. The accessible population for this study was 600 registered nurses who worked at Hillel Yaffe Medical Center.

3.5 Sample and Sampling Procedure

A convenience sampling technique was employed to recruit nurses for this study. In employing a convenience sampling technique, the researchers aimed to

recruit nurses who demonstrated a willingness to participate in the study and were easily accessible within the chosen settings. Convenience sampling involves selecting participants based on their availability and accessibility, rather than using random selection methods. In this study, participants were invited to participate in the study through workplace announcements, e-mail invitations, and direct communication from the researcher, employing a convenience sampling technique.

Overall, convenience sampling facilitated the recruitment of participants who were readily available and willing to contribute to the study, allowing for efficient data collection within the constraints of time, resources, and access to the target population. However, it's important to acknowledge that convenience sampling may introduce biases due to the non-random selection of participants, which should be considered when interpreting the study findings.

3.5.1 Sample Size Estimation

The sample size for this study was calculated using *G Power 3.1.9 r software* and supported by *Faul et al. (2007)*. For the (α) level set at 0.05, a power level of 0.8, and an effect size of 0.174, GPower calculated that a sample size of 256 participants would be necessary. To account for potential withdrawals or incomplete questionnaires, which we estimated at 10%, the initial sample size was adjusted. Therefore, we planned to recruit approximately 284 participants to ensure that the final sample size meets the required statistical parameters.

3.5.2 Inclusion and Exclusion Criteria

The recruitment of nurses for this study employed a convenience sampling technique, where participants voluntarily expressed interest in participating. To ensure the relevance and suitability of the sample, specific inclusion and exclusion criteria were established.

Inclusion Criteria: Participants must be actively employed as nurses for at least six months. Participants must hold a designation as a registered nurse (RN). Participants must fall within a specified age range, typically between 22 and 65 years old, to ensure diversity across age groups. Participants must possess a minimum level of education in nursing, such as a diploma, associate's degree, bachelor's degree, or higher.

These criteria were designed to select participants who are actively engaged in the nursing profession and possess the necessary qualifications and experience to provide informed insights into the study's focus on disaster preparedness. By including nurses from various educational backgrounds and age groups, the study aims to capture a comprehensive view of the factors influencing disaster preparedness in the nursing workforce.

Practical nurses were excluded from the study. Moreover, participants were required to demonstrate adequate reading and writing abilities in the language of the study and should not have any cognitive impairments or psychological conditions that could impact their participation. Additional criteria regarding years of nursing experience and duration in the current position were considered to ensure participants' familiarity with their roles and responsibilities. These criteria collectively aimed to recruit a sample of nurses representative of the target population and capable of providing meaningful insights into the study's objectives

3.6 Research Instruments

The research questionnaire was comprised of the following parts:

3.6.1 Questionnaire Overview

The initial segment of the questionnaire encompassed inquiries concerning the socio demographic and professional aspects of nurses, as well as disaster education, prior experience in managing disasters, and disaster training at their workplace.

Socio demographic and Professional Data: Socio demographic data included gender, age, and marital status, number of children, religion, and level of religious observance. On the professional front, participants were asked about their specific ward, position, clinical experience as a nurse, clinical experience as a nurse in their present ward, and completion of an advanced nursing course.

Disaster Education: Participants were asked whether disaster medicine was part of their Bachelor's degree. Disaster education generally refers to the theoretical and academic study of disaster preparedness, response, recovery, and mitigation. It encompasses the knowledge and understanding of the principles, concepts, and policies related to disaster management.

Prior Experience in Managing a Disaster: Participants were asked whether they had prior experience in managing a disaster.

Disaster Training at Place of Work: Participants were asked whether they underwent disaster training at their place of work and how many disaster training days they had during the past year. Disaster training is more practical and hands-on, focusing on the skills and procedures necessary to respond effectively during disasters. It emphasizes the practical application of the knowledge acquired through disaster education.

This section of the questionnaire was meticulously designed by the researcher to capture a comprehensive profile of the participants' backgrounds, professional roles, and disaster-related experiences.

3.6.2 Disaster Preparedness

In the present study, nurses' disaster preparedness was measured using the Disaster Preparedness Evaluation Tool (DPET) developed by Tichy et al. (2009). This tool is a public domain tool. It measures disaster preparedness by assessing general knowledge, skills, and personal preparedness. The tool consists of 46 items that address three stages of a disaster: Disaster preparedness, response, and evaluation.

Preparedness: This part includes 25 items that can be divided into three sub-categories: (i) knowledge about disaster (16 items), (ii) disaster management skills (7 items), and (iii) family preparedness (2 items). **Response:** This part includes 15 items that can be divided into two sub-categories: (i) specific responses to knowledge (3 items) and (ii) patient management during responses (12 items). **Evaluation:** This part includes 6 items that can be divided into two sub-categories: (i) knowledge of recovery (1 item) and (ii) questions concerning recovery management (5 items). Responses to all three subscales were measured on a 6-point Likert scale (from 1 = strongly disagree, to 6 = strongly agree), and means were calculated for each subscale based on the scores obtained for each subscale's items. The total possible score for the whole scale ranges from 46 to 184. The mean score between 1.0-2.0 indicates low Disaster Preparedness, 2.1-4.0 indicates medium Disaster Preparedness, and 4.1-6.0 – high Disaster Preparedness (Tichy et al., 2009). The scoring for this scale and its subscales was based on the mean as follows: 1-2.99 reflected a weak preparedness perception, 3 to 4.99 indicated moderate preparedness, and 5 to 6 reflected a strong preparedness 6-point scale (Tichy et al., 2009).

3.6.2.1 Reliability of the Disaster Preparedness Evaluation Tool (DPET). The psychometric properties of the DPET have been empirically tested. In the study by Tichy et al., (2009), the preparedness, response, and evaluation parts had a Cronbach's alpha of 0.9-0.934. Good reliability of the DPET was shown in previous studies as well (Abuadas & Albikawi, 2022; Öztekin et al., 2016).

3.6.2.2 Validity of the Disaster Preparedness Evaluation Tool (DPET). In this study, the Disaster Preparedness Evaluation Tool (DPET) was employed to assess the levels of disaster preparedness among nurses. The tool's content validity was initially confirmed by Tichy et al. (2009), who ensured that it comprehensively covered the relevant factors needed to evaluate disaster preparedness effectively. This validation process established the tool's relevance in the context of emergency preparedness assessments.

Additionally, the tool's applicability and effectiveness were further validated in various contexts, including the Middle East (Labrague et al., 2018). Their research supported the tool's reliability in diverse settings, thereby confirming its robustness in assessing disaster preparedness in different cultural and environmental contexts.

3.6.3 Psychological Disaster Preparedness

In the present study, psychological disaster preparedness was measured using the Psychological Preparedness for Disaster Threat Scale (PPDTS), originally developed by Zulch et al. (2012). The psychometric properties of this tool were tested again by McLennan et al. (2020), and their version of the tool was used in the present study. The PPDTS is comprised of 18 items and two subscales: Knowledge and management of the external situational environment (10 items) and anticipation, awareness, and management of one's psychological response (8 items). Responses are given on a 4-point Likert-type scale (1 = not at all true of me, to 4 = exactly true of

me). Means are calculated for each subscale, based on the scores obtained for each subscale's items. The total possible score for the whole scale ranges from 18-72. The mean between 1.0-2.0 indicates low psychological disaster preparedness, 2.1-3.0 – medium psychological disaster preparedness, and 3.1-4.0 – high psychological disaster preparedness (McLennan et al., 2020).

3.6.3.1 Reliability of the Psychological Preparedness for Disaster Threat Scale

(PPDTS). Zulch et al. (2012) developed a 51-item pool following a literature search and evaluations by a panel of domain experts. This initial pool was reduced to 40 items following a pilot test. An exploratory and confirmatory factor analysis conducted by McLennan et al. (2020) resulted in 18 items. Based on item-content, Factor I (10 items) was interpreted as Knowledge and Management of the External Situational Environment (KM), and Factor II (8 items) was interpreted as Anticipation, Awareness and Management of one's Psychological Response. In the study by McLennan et al. (2020), the PPDTS scale has shown excellent internal consistency, with a Cronbach's alpha value of $\alpha = 0.91$. In studies conducted among nurses, the Cronbach alpha of the tool was high (0.97) (Said et al., 2020).

3.6.3.2 Validity of the Psychological Preparedness for Disaster Threat Scale

(PPDTS). The psychometric properties of the PPDTS were tested by McLennan et al. (2020). Evidence of both concurrent convergent and discriminant validity of the measure was found. That is, PPDTS demonstrates consistency in capturing the intended construct while being distinct from unrelated constructs (McLennan et al., 2020).

3.6.4 Resilience

Resilience was measured using the Connor-Davidson Resilience Scale (CDRS-25) developed by Connor and Davidson (2003). This tool is a public domain tool. It

contains a total of 25 items and 3 subscales. Subscales are as follows: Tenacity and personal competence (T&PC, 15 items), tolerance of negative affect (ToNA, 6 items), and tendency toward spirituality (TTS, 4 items). The tool consisted of 25 items measured using a 5-point Likert scale ranging from 0 (not true at all) to 4 (true nearly all of the time). The score for each item was added to obtain a total score. Total scores ranged from 0 (no resilience at all) to 100 (perfect resilience). This scale was categorized as low resilience = 0-73, mild= 74-82, moderate= 83-90, and high resilience= 91-100.

3.6.4.1 Reliability of the Connor-Davidson Resilience Scale. The Connor-Davidson Resilience Scale was found to have good reliability, with a Cronbach's alpha value of $\alpha = 0.89$ (Connor & Davidson, 2003). The reliability of the instrument in recent studies conducted among nurses was good, with Cronbach's alpha coefficient of 0.946 (Fradelos et al., 2020) and 0.89 (Afshari et al., 2021).

3.6.4.2 Validity of the Connor-Davidson Resilience Scale. The Connor-Davidson Resilience Scale demonstrates good construct validity, indicating its effectiveness in accurately measuring individuals' resilience levels. Recent studies by Fradelos et al. (2020) and Afshari et al. (2021) reaffirm the scale's ability to reliably assess resilience, as originally established by Connor and Davidson (2003).

3.6.5 Dispositional Optimism

In the present study, dispositional optimism was measured using the Life Orientation Test-Revised (LOT-R). This tool consists of 10 items ranked on a 1 to 4 Likert-type scale (1 = strongly disagree, to 4 = strongly agree). The total possible score for the whole scale ranges from 10-to 40. Means were calculated based on the scores obtained for each item. A mean between 1-2 indicates low dispositional

optimism, 2.1-3 – medium dispositional optimism, and 3.1-4 – high dispositional optimism (Scheier et al., 1994).

3.6.5.1 Reliability of the Life Orientation Test (LOT-R). The tool showed good reliability, with a Cronbach's alpha value of $\alpha = 0.80$ (Scheier et al., 1994). An acceptable alpha of the tool was shown in a recent study conducted among nurses ($\alpha = 0.65$) (Said et al., 2020).

3.6.5.2 Validity of the Life Orientation Test (LOT-R). The tool is considered to have good construct validity, indicating that the instrument reliably measures individuals' dispositional optimism. This suggests that the LOT-R effectively assesses individuals' general tendency to expect positive outcomes, as supported by research (Scheier et al., 1994; Scheier & Carver, 2018).

3.6.6 Anxiety

In the present study, trait anxiety was measured using the State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983). This tool is a public domain tool. The tool has 20 items assessing trait anxiety and 20 for state anxiety. In this study, only the trait anxiety measure was used (20 items). All items are rated on a 4-point scale (from 1= "almost never" to 4= "almost always"). The total possible score for the whole scale ranges from 20-80. Several items on the STAI were reverse-coded, specifically items 1, 2, 5, 8, 11, 15, 16, 19, and 20. The scoring categories are as follows: "no or low anxiety" (scores 20-37), "moderate anxiety" (scores 38-44), and "high anxiety" (scores 45-80) (Spielberger et al., 1983). The tool has good internal reliability, with a Cronbach's alpha value of $\alpha = 0.781$ (Spielberger et al., 1983). In a recent study conducted among nurses, the Trait Anxiety subscale was shown to have good internal reliability, with Cronbach's alpha of 0.92 (Şahan & Tangıntız, 2022; Sikaras et al., 2023). In another study, the internal consistency of the trait anxiety scale was

satisfactory ($\alpha = 0.68$) (Said et al., 2020). Also, the tool is considered to have good construct validity (Di Tella et al., 2020; Hacimusalar et al., 2020; Setiawati et al., 2021; Spielberger et al., 1983).

3.6.7 Organizational Factors

In the present study, organizational factors were measured using the Practice Environment Scale of the Nursing Work Index (PES-NWI), developed by Lake (2002). The PES-NWI is considered to reflect the organizational characteristics of environments that were attractive to nurses. Lake (2002) developed the PES-NWI as a psychometrically and empirically derived scale capable of discerning the contribution of the practice environment to nurse and patient outcomes. The tool includes 31 items and five subscales: 1. Nurse participation in hospital affairs (9 items); 2. Nursing foundations for quality of care (10 items); 3. Nurse manager, ability, leadership, and support of nurses (5 items); 4. Staffing and resource adequacy (4 items); 5. Collegial nurse-physician relations (3 items). Responses are given on a 4-point Likert scale (from 1 = strongly disagree, to 4 = strongly agree). The total possible score for the whole scale ranges from 31 to 124. Subscale items are averaged to compute a subscale score. Values above 2.5 for four or five subscales are considered to indicate a favorable practice environment, for two or three a mixed environment, and for none or one a poor practice environment. A mixed environment, as described in the context of the PES-NWI, refers to a situation where the organizational characteristics of the nursing practice environment are neither entirely favorable nor entirely unfavorable. Specifically, in the PES-NWI framework, a mixed environment indicates that some aspects of the practice environment are perceived positively by nurses (e.g., nurse participation in hospital affairs, nursing foundations for quality of care, nurse manager support), while others may be perceived less positively (e.g., staffing and

resource adequacy, collegial nurse-physician relations). In practical terms, a mixed environment suggests that there are both strengths and areas for improvement within the organizational context where nurses work. For example, nurses may feel supported by their managers and colleagues in certain aspects of their work, but they may also face challenges related to staffing shortages or strained relationships with physicians (Lake & Friese, 2006). The scale has confirmed adequate reliability ($r=0.92$) (Lake, 2002). To measure the work environment at the aggregate level, the interclass correlation coefficient (ICC [1,k]) should be at least .60. In the study by Lake et al. (2016), the ICC of 4 of the 5 PES-NWI subscales exceeded this criterion and the fifth was considered satisfactory at .58. The tool is considered to have good validity as demonstrated by multiple studies (Lake, 2002; Lake et al., 2016). Specifically, the PES-NWI has undergone rigorous testing to establish its validity, including content validity, construct validity, and criterion-related validity.

3.6.8 Nurse-Nurse Interaction Questions

An additional questionnaire, measuring nurse-nurse interaction was used in this study. It was derived from the Job Satisfaction Scale adapted from the National Database of Nursing Quality Indicators Registered Nurse (NDNQIRN) Survey with Job Satisfaction Scales-R (American Nurses Association [ANA], 2014a; Taunton et al., 2004). The Job Satisfaction Scales-R has 11 subscales (Task, Nurse-Nurse Interaction, Nurse-Physician Interaction, Decision-Making, Autonomy, Professional Status, Pay, Professional Development Opportunity, Professional Development Access, Supportive Nursing Management, and Nursing Administration). More specifically, this 11-subscale section has a total of 33 questions (3 questions in each subscale), which have elements that describe the work environment. Each of 49 of the 11-sub scales produces a score, which is an average of the unit RNs' responses. The

higher the score, the more positive the rating is. The present study used only the Nurse-Nurse Interaction section.

The Nurse-Nurse Interactions subsection measures nurses' satisfaction with the interaction between nurses while at work. This is measured by responses from 3 questions on the NDNQI RN Survey with Job Satisfaction-R related to nurses' satisfaction with their interactions with other nurses while at work related to dependability of other nurses they work with, teamwork, and support of and between nurses they work with. Responses are measured on a 4-point Likert scale (1 = strongly disagree, to 4 = strongly agree). The total score for the whole scale ranges from 3-12. Means were calculated based on the scores obtained for each item. When the average is between 1.0-2.0, it indicates low nurse-nurse interaction, 2.1-3.0 – medium nurse-nurse interaction, and 3.1-4.0 – high trait nurse-nurse interaction (Taunton et al., 2004). The tool has good internal reliability, with a Cronbach's alpha value of $\alpha = 0.86$ (Taunton et al., 2004). According to ANA (2014b), the JSS-R has good internal consistency, with a Cronbach's alpha coefficient reported as .89. Also, the tool is regarded as having strong construct validity, as supported by multiple studies (ANA, 2014b; Taunton et al., 2004).

3.6.9 Tools' Validation

The tools used in this study underwent a thorough validation process to ensure their effectiveness and appropriateness for the target population. Initially, the tools were translated into Hebrew to accommodate the language of the participants. This translation was performed by professional translators fluent in both the source and target languages, followed by back-translation to verify consistency with the original version.

The Content Validity Index (CVI) was employed to evaluate the relevance of each item in the adapted tools. This quantitative measure of content validity involved ratings from a panel of six experts, consisting of three men and three women, predominantly emergency nurses with substantial experience in the field. These experts assessed the clarity, comprehension, relevance, simplicity, and potential ambiguities of the items. Their feedback was instrumental in refining the items to ensure they accurately reflected the constructs being measured.

Face validity was further established through detailed evaluations by the expert panel, whose feedback guided necessary adjustments to the items. This expert review process ensured that the tools were appropriately tailored to the cultural and linguistic context of the study population.

Additionally, a pilot study involving 30 conveniently sampled nurses was conducted to test the general understanding and clarity of the questionnaire. The results from this pilot study confirmed that the final version of the questionnaire was clear and understandable, validating the design and structure of the instruments used in the study. These iterative processes helped ensure that the tools used in the study were both effective and culturally relevant, thereby enhancing the validity of the research findings.

3.6.10 Reliability –Piloting process

To assess reliability, a pilot study involving 30 nurses was conducted using convenience sampling. A sample size of 30 is frequently used as it aligns with guidelines for basic statistical analyses, such as computing means, and standard deviations, and conducting preliminary inferential tests (Lakens, 2022). The internal consistency of the measurement instrument was assessed using Cronbach's alpha, yielding the following values: Disaster Preparedness Evaluation Tool (DPET)-0.93;

Psychological Preparedness for Disaster Threat Scale-0.91; Connor-Davidson Resilience Scale-0.91; Life Orientation Test (LOT-R)-0.84; State-Trait Anxiety Inventory (STAI)-0.89; Practice Environment Scale of the Nursing Work Index (PES-NWI)-0.68; State-Trait Anxiety Inventory (STAI)-0.90, indicative of a high degree of reliability and strong internal consistency among the scales or questionnaire items. Notably, similar reliability coefficients were obtained upon the completion of data collection.

This pilot study also served to test the applicability and clarity of the data collection instrument before the main study. Notably, data from the pilot study were excluded from the main study, as the pilot phase primarily focused on the initial validation of the study methods. The pilot study involved reaching out to nurses in the triage department via email, and those who consented were included in the pilot. To exclude the data from the main study, I ensured that all data collected during the pilot phase were kept separate from the data collected in the main study.

3.7 Data collection

The data collection procedure for the main study involved a multi-step approach to ensure comprehensive participation and data integrity. Participants were initially contacted via email with an invitation to participate in the study. This email included detailed information about the study's purpose, procedures, and the voluntary nature of participation, ensuring informed consent. Once consent was obtained, participants were given the option to complete the questionnaires either electronically or in person, based on their preference and the logistical arrangements. For the electronic option, Google Forms was used as the primary data collection software. Google Forms was chosen for its user-friendly interface, secure data handling capabilities, and ease of access for participants.

To ensure completeness and accuracy of the data, all questionnaires included mandatory questions. These mandatory fields were strategically implemented to prevent submission of incomplete responses, thereby enhancing the quality and reliability of the data collected. In-person data collection followed the same structured format as the electronic version, with paper questionnaires mirroring the Google Forms layout to maintain consistency. Throughout the data collection process, measures were taken to ensure that all participants had access to the necessary information and resources to complete the study. Participants received clear instructions on how to fill out the questionnaires, whether electronically or in person. Additionally, follow-up reminders were sent to non-respondents to maximize response rates. This comprehensive approach to data collection supported the integrity of the data collected, ensuring that the study's findings are based on reliable and complete responses from a diverse group of participants.

3.8 Ethical Consideration

Before commencing data collection, ethical approval was diligently secured from the IRB Committee at the Arab American University of Palestine in Ramallah, under approval number 2023/A/156/N (See Appendix A). Subsequently, institutional approval was obtained from the IRB Committee at Hillel-Yaffe Medical Center, denoted by approval number 90-23 (See Appendix B). The researcher further sought approval from the hospital's head nurse, followed by individual meetings with the head nurses of various hospital wards. During team meetings, the researcher presented the study's objectives and distributed printed copies of the research questionnaire to potential participants. Participants, upon understanding the study's purpose, signed an informed consent form (See Appendix C, D, and E), with a reiterated emphasis on voluntary participation and the preservation of anonymity. To maintain participants'

confidentiality, envelopes were provided for participants to deposit their completed questionnaires into secure, sealed boxes, individually placed in each ward. Subsequently, data were meticulously coded, and hard copies of the questionnaires were securely stored in a locked closet, accessible solely to the researcher, ensuring the utmost confidentiality and adherence to ethical standards throughout the data collection process. Four hundred questionnaires were distributed, and only 300 fully completed questionnaires were filled out.

3.9 Data Analysis

Data were analyzed using the SPSS for Windows (version 28.0, SPSS Inc., Chicago) statistical software package. All data was screened for missing data, and outliers, and cleaned appropriately.

Categorical variables were analyzed and described by frequencies and percentages, while continuous variables were described using the central tendency measures (means, and medians), and the dispersion measures (standard deviation).

Inferential statistics were employed to examine the relationships between nurses' disaster preparedness and psychological disaster preparedness and various influencing factors such as resilience, personality traits, and organizational factors within the work environment. Before conducting the main analyses, I assessed the normality of the data distribution to identify any outliers. This initial step ensured that the data were suitable for parametric tests, which were confirmed by the Shapiro-Wilk test and visual inspections of histograms and box plots. Outliers, identified using z-scores and visual inspections, were reviewed to determine their impact on the analyses, and appropriate adjustments were made where necessary.

Pearson correlation coefficients were utilized to explore the associations between nurses' disaster preparedness and the factors mentioned. This analysis provided insights into the interrelationships among these variables. To assess differences in disaster preparedness levels based on demographic and professional characteristics, independent samples t-tests and one-way ANOVA were applied, depending on the type of data and measurement scale. These tests helped determine if significant differences existed between groups such as those based on gender, educational background, and prior disaster training.

Additionally, multiple linear regression analysis was conducted to identify the predictors of nurses' disaster preparedness. This method allowed us to determine which factors significantly predicted preparedness, adjusting for the influence of other variables. The assumptions required for regression analysis—linearity, multicollinearity, and homoscedasticity—were met. Statistical significance was set at $p \leq 0.05$. These statistical methods collectively aimed to provide a comprehensive understanding of the factors influencing nurses' preparedness for disaster scenarios.

3.10 Summary

This chapter outlines the study's methodology, focusing on its design and implementation. It details the research setting, the target population, and the sampling strategy, emphasizing the use of convenience sampling to select 256 registered nurses from Hillel Yaffe Medical Center in Israel. Ethical approvals were obtained from the institutional Helsinki Committee and the hospital's head nurse, ensuring adherence to ethical standards throughout the research process. Data collection involved distributing questionnaires during staff meetings, with participants' informed consent

obtained. Completed questionnaires were securely collected to maintain confidentiality.

The study instruments, which include measures of socio-demographic data, disaster preparedness, psychological preparedness, resilience, dispositional optimism, trait anxiety, and organizational factors, were validated for reliability as indicated by acceptable Cronbach's alpha values. Data management and analysis were conducted using SPSS, involving descriptive statistics, Pearson correlations, and multiple linear regression analyses to investigate the relationships among the variables. Ethical considerations were rigorously followed, ensuring that participants were informed of their rights, and data confidentiality was maintained. The significance level for statistical analyses was set at $p < 0.05$, underscoring the study's commitment to robust and valid findings.

Chapter Four

Results

4.1 Introduction

This chapter presents the results of the data analysis. The study's purpose is to explore the associations between nurses' resilience, personality traits (dispositional optimism and trait anxiety), and organizational factors of their work environment, with both disaster preparedness and psychological disaster preparedness. Also, this study seeks to identify the predictors of nurses' disaster preparedness and psychological disaster preparedness.

4.2 Socio-demographical and Professional Characteristics

A total of N=300 nurses participated in this study, their mean age was 36.76 (SD=0.48), age range of 24-63. The majority of participants were female, comprising 71.3% (n=214). On average, they reported having M=2 children, with a standard deviation of ± 0.53 , and the number of children ranged from 0 to 6. Notably, 34.3% (n=103) of the participants did not have children.

Religiously, the study encompassed a balanced representation, with 49.4% (n=148) identifying as Jewish and 50.6% (n=152) as Muslim. Exploring the level of religious observance, participants were distributed across categories: 24.3% (n=73) identified as secular, 36.3% (n=109) as traditional, 37% (n=111) as religious, and a small proportion, 2.3% (n=7), identified as Ultra-Orthodox (Table 2).

Table 2: Demographic Characteristics of Nurses (N=300)

Variables	n	%
Gender		
Female	214	71.3
Male	86	28.7
Marital status		
Single	68	22.7
Married	227	75.7
Divorced	4	1.3
Widow	1	.3
Religious		
Jewish	148	49.4
Muslim	152	50.6
Level of religious observance		
Secular	73	24.3
Traditional	109	36.3
Religious	111	37
Ultra-Orthodox	7	2.3

The professional characteristics of the participating nurses are summarized in Table 3. The majority of nurses were working in the Emergency ward (48.7%), followed by the Medical ward (28.3%), Surgical ward (17%), Intensive care (5.3%), and Obstetrics and Gynecology (0.7%). Furthermore, in terms of clinical experience,

the participating nurses reported an average of $M=9.30$ ($SD=0.6$) years of experience, with a range of 1 to 38 years. Specifically, the clinical experience as a nurse in the present ward showed an average of $M=7.09$ ($SD=0.51$) years, with a range of 1 to 34 years.

Regarding educational background, 46.3% of the nurses had completed an advanced nursing course. Disaster medicine was part of the Bachelor's degree curriculum for 15.3% of the nurses. A significant proportion (51.2%) of the participants reported having prior experience in managing a disaster, and the majority (61.3%) had undergone disaster training at their workplace. On average, the nurses received 2 disaster training days in the past year ($SD=0.2$), with a range of 1 to 6 training days. These findings provide insights into the diverse professional backgrounds and experiences of the nurses in the study.

Table 3: Professional Characteristics of Nurses (N=300)

Variables	Categories	n	%
Ward	Medical ward	85	28.3
	Surgical ward	51	17
	Intensive care	16	5.3
	Obstetrics and gynecology	2	0.7
	Emergency	146	48.7
Advanced nursing course	Yes	139	46.3
	No	161	53.7
Disaster education	Yes	46	15.3
	No	254	84.7
Prior experience in managing a disaster	Yes	153	51.2
	No	147	48.8
Disaster training at place of work	Yes	184	61.3
	No	116	38.7

4.3 Overview of the study variables

Table 4 presents a comprehensive overview of the study variables.

4.3.1 Disaster Preparedness

Based on Table 5, the mean disaster preparedness score was 2.45 (SD = 0.40), with a range from 1.44 to 3.76. This indicates a moderate level of preparedness on average, showcasing a diversity in responses. The findings reveal that the disaster preparedness scores of the participants varied across the surveyed population. Thus, a notable proportion of respondents (28.7%) demonstrated a relatively high level of disaster preparedness, scoring 2.16. Furthermore, a substantial portion (43.3%) fell within the range of 2.32 to 2.68, indicating a moderate level of preparedness. On the lower end, 6.0% scored below 2.00, while 6.0% scored above 3.00, signifying relatively low and high levels of preparedness, respectively. The distribution suggests a diverse range of preparedness levels within the surveyed group, highlighting potential areas for targeted interventions or educational efforts to enhance disaster readiness.

4.3.2 Psychological Disaster Preparedness

As revealed by Table 5 nurses indicated a mean score of 2.74 in their self-reported psychological disaster preparedness. These findings suggest that, on average, nurses demonstrate moderate levels of psychological preparedness. Standard deviations indicate relatively consistent responses within the sample.

The psychological disaster preparedness scores among the surveyed participants demonstrated a varied distribution. A notable percentage (38.7%) fell within the range of 2.56 to 2.94, indicating a moderate to high level of psychological preparedness. A substantial portion (31.3%) scored between 2.50 and 2.61, further

contributing to the moderate preparedness category. Additionally, 21.3% scored below 2.50, suggesting a relatively lower level of psychological preparedness, while 9.7% scored above 3.00, signifying a higher level of preparedness. The distribution underscores the diversity in psychological preparedness levels within the surveyed group, emphasizing potential areas for targeted interventions or educational initiatives to enhance psychological resilience and preparedness for disaster situations.

4.3.3 Personality Traits

In the realm of personality traits related to psychological disaster preparedness, nurses reported mean scores for resilience, dispositional optimism, and trait anxiety at 3.25, 3.01, and 3.04, respectively. Standard deviations indicate relatively consistent responses within the sample. The ranges underscore the diversity of individual perceptions, particularly in dispositional optimism and trait anxiety, which span from 2.4 to 4 and 2.40 to 3.80, respectively.

4.3.4 Organizational Factors

The assessment of organizational factors revealed varying perceptions among nurses. Notably, nurse participation in hospital affairs, nursing foundations for quality of care, and nurse-manager ability, leadership, and support of nurses received mean scores of 2.75, 2.80, and 2.70, respectively. However, perceptions of staffing and resource adequacy and collegial nurse-physician relations were slightly lower, both averaging 2.23. The standard deviations suggest moderate variability in responses, and the ranges indicate a considerable spread in scores across the organizational factors (See Table 4).

Table 4: Levels of the study variables

Variable	M	SD	Range
Disaster preparedness:			
Preparedness	4.45	.40	3.44-5.76
Response	4.34	.49	1-6
Evaluation	4.45	.38	3.72-5.83
Psychological disaster preparedness	2.74	.38	1.72-3.83
Organizational factors:			
Nurse participation in hospital affairs	2.75	.49	1.67-4
Nursing foundations for quality of care	2.80	.49	1.70-4
Nurse manager ability, leadership and support of nurses	2.70	.62	1.40-4
Staffing and resource adequacy	2.23	.63	1.25-4
Organizational factors	2.75	.44	1.91-4
Nurse-Nurse Interaction	3.16	.59	2-4
Resilience	3.25	.37	2.4-4
Personality traits			
Dispositional optimism	3.01	.33	2.40-3.80
Trait anxiety	3.04	.30	2.40-3.60

4.4 Research Question 1:

What are the levels of disaster preparedness and psychological disaster preparedness and the levels of other related variables such as resilience, personality traits (dispositional optimism and trait anxiety), nurse-nurse interaction, and organizational factors among nurses working in hospitals in Israel?

Based on Table 4 the levels of disaster preparedness among nurses working in hospitals in Israel ranged from 2.45 to 2.74, with a mean score of 2.59 (SD = 0.42). For psychological disaster preparedness, the levels ranged from 1.72 to 3.83, with a mean score of 2.29 (SD = 0.38). These scores indicate moderate levels of both disaster preparedness and psychological disaster preparedness among the surveyed nurses. The range for disaster preparedness suggests some variability in readiness, while the narrower range for psychological preparedness indicates relatively consistent levels among the participants.

Table 5 presents a comprehensive overview of participants' responses regarding their complete agreement with statements related to both disaster preparedness and psychological preparedness in disaster situations. Table 6 displays the percentage of participants who indicated complete agreement with statements about both disaster preparedness and psychological preparedness. "Full agreement" refers to participants who endorsed all items within each respective scale. It's noteworthy to mention that the response and evaluation subscales are integral components of the instrument used to measure psychological preparedness.

Regarding disaster preparedness, participants expressed a high level of interest in educational classes tailored to their community, with 72% indicating a desire for disaster preparedness education. Awareness of available classes was lower, as only 16% were familiar with disaster preparedness and management courses at their

workplace, university, or within the community. While 40% were aware of potential vulnerabilities in their community, there was limited confidence (0.3%) in the sufficiency of support from local or national officials during disaster situations.

In terms of information retrieval, 38.3% found published research on disaster preparedness easily accessible, and 8.3% knew where to find relevant research or information to address knowledge gaps. Community engagement in creating guidelines or emergency plans was limited (2.7%), and 14.3% knew who to contact in disaster situations in their community. Participants also exhibited varying levels of knowledge and preparedness for bioterrorism scenarios, with 24% feeling confident in using personal protective equipment.

As to psychological preparedness, the awareness of natural hazard/disaster preparedness materials relevant to participants' areas was notably low at 0.3%. Participants demonstrated mixed awareness of household preparedness measures and weather signs, with 4% acknowledging knowledge of necessary measures and 9.7% being familiar with the signs of an approaching fire/flood/cyclone.

In terms of emotional coping, participants generally assessed themselves positively, with 26.7% feeling confident in managing their own response in a natural hazard/disaster situation. Confidence in dealing with stress and anxiety varied among participants, with 24.3% feeling reasonably confident. While 23.3% knew strategies to calm themselves in disaster situations, responses indicate a mix of knowledge about personal/family emergency plans.

The study examined various organizational and personal factors influencing nurses' disaster preparedness at Hillel Yaffe Medical Center. Organizational factors assessed included nurse participation in hospital affairs, the foundations of quality care provided by nursing, the abilities of nurse managers in leadership and support

roles, staffing, and resource adequacy, as well as nurse-nurse interactions. Scores from these areas revealed moderate to significant variability in perceptions among nurses. Nurse participation in hospital affairs had a mean score of 2.75, indicating moderate involvement, while nursing foundations for quality care scored slightly higher at 2.80. The perceived ability of nurse managers scored a bit lower with a mean of 2.70, suggesting opportunities for leadership development. Concerns about staffing and resources were evident, with this aspect receiving the lowest mean score of 2.23, indicating perceived inadequacies in these areas. However, nurse-nurse interaction scored higher, with a mean of 3.16, reflecting more positive perceptions of peer relationships among nurses.

Regarding personal traits, dispositional optimism among nurses was relatively high, with a mean score of 3.25, suggesting a generally positive outlook. Trait anxiety was moderately low, with a mean of 3.01, indicating that nurses generally experience low levels of anxiety. Resilience, crucial for disaster preparedness, also had a mean score of 3.04, reflecting the nurses' ability to recover from challenging situations. These findings highlight the multifaceted nature of factors affecting disaster preparedness, suggesting areas for targeted interventions to improve preparedness, especially focusing on enhancing staffing levels, resource adequacy, and leadership support.

Table 5: Mean and Standard Deviation of Disaster Preparedness and Psychosocial Preparedness Items

Disaster Preparedness	M	SD
1. I would be interested in educational classes on disaster preparedness that relate specifically to my community situation.	4.3	1.3
2. I am aware of classes on disaster preparedness and management that are available, for example, at my workplace, at the university, or in the community.	4.7	0.4
3. I find that published works of research on disaster preparedness are comprehensible.	4.5	0.8
4. I know the limits of my knowledge, skills, and authority as a nurse to act in disaster situations, and I would know when I exceed them.	4.5	0.6
5. Finding relevant information about disaster preparedness related to my community needs is an obstacle to my level of preparedness.	4.9	0.6
6. I am aware of the potential vulnerabilities in my community (e.g., earthquake, floods, terror).	4.5	0.7
7. In the case of a disaster situation, I think that there is sufficient support from local officials or on the national level.	4.2	0.7
8. I know where to find relevant research or information on disaster preparedness and management to fill in gaps in my knowledge.	4.3	0.6
9. I have a list of contacts in the medical or health community in which I practice who have referral contacts in case of a disaster situation (e.g., health department).	4.3	0.7

Disaster Preparedness	M	SD
10. I find that the published works of research on disaster preparedness and management are easily accessible.	4.0	0.7
11. I participate in one of the following educational activities on a regular basis: continuing education classes, seminars, or conferences dealing with disaster preparedness.	4.2	0.6
12. I am familiar with the local emergency response system for disasters.	4.8	0.8
13. I know who to contact (chain of command) in disaster situations in my community.	4.4	0.7
14. I read journal articles on disaster preparedness.	4.5	0.8
15. I participate/have participated in creating new guidelines, emergency plans, or lobbying for improvements on the local or national level.	4.9	0.8
16. I have participated in emergency plan drafting and emergency planning for disaster situations in my community.	4.7	0.8
17. I am familiar with accepted triage principles used in disaster situations.	4.6	0.8
18. I participate in disaster drills or exercises at my workplace (e.g., clinic, hospital) on a regular basis.	4.9	0.5
19. I consider myself well prepared for managing disasters.	4.4	0.8
20. In the case of a bioterrorism attack, I know how to use personal protective equipment.	4.3	0.8
21. I would be considered a key leadership figure in my community in a disaster situation.	4.8	0.8

Disaster Preparedness	M	SD
22. In the case of bioterrorism, I know how to perform isolation procedures to minimize the risk of community exposure.	4.4	0.7
23. In the case of bioterrorism, I know how to execute decontamination procedures.	4.8	0.6
24. I have personal/family emergency plans in place for disaster situations.	4.8	0.7
25. I have an agreement with loved ones and family members on how to execute our personal/family emergency plans.	4.9	0.9
26. I am able to describe my role in the response phase of a disaster in the context of my workplace, the general public, the media, and personal contacts.	4.9	0.8
27. I am familiar with the organizational logistics and roles among local and national agencies in disaster response situations.	4.9	0.8
28. I am familiar with psychological interventions, behavioral therapy, cognitive strategies, support groups, and incident debriefing for patients who experience emotional or physical trauma.	4.4	0.7
29. I can manage the common symptoms and reactions of disaster survivors that are of an affective, behavioral, cognitive, and physical nature.	4.8	0.6
30. I would feel confident providing patient education on stress and abnormal functioning related to trauma.	4.8	0.7
31. I can identify possible indicators of mass exposure evidenced by a clustering of patients with similar symptoms.	4.9	0.9

Disaster Preparedness	M	SD
32. As a nurse, I would feel confident as a manager or coordinator of a shelter.	4.9	0.8
33. I feel reasonably confident that I can treat patients independently without supervision by a physician in a disaster situation.	4.4	0.7
34. I would feel confident working as a triage nurse practitioner and setting up temporary clinics in disaster situations.	4.2	0.7
35. As a nurse, I would feel confident in my abilities as a direct care provider and first responder in disaster situations.	4.2	0.9
36. I would feel confident implementing emergency plans, evacuation procedures, and similar functions.	4.4	0.7
37. As a nurse, I would feel reasonably confident in my abilities to be a member of a decontamination team.	4.5	0.8
38. I am familiar with biological weapons (e.g., anthrax, plague, botulism, smallpox), their signs and symptoms, and effective treatments.	4.6	0.7
39. I feel confident discerning irregularities in health assessments indicating potential exposure to biological agents.	4.3	0.7
40. In the case of bioterrorism, I know how to take a focused health history and assessment, specific to the bio-agents used.	4.4	0.9
41. I am familiar with the possible scope of my role as a nurse in a post-disaster situation.	4.6	0.8
42. I am able to discern the signs and symptoms of acute stress disorder and	4.3	0.7

Disaster Preparedness	M	SD
post-traumatic stress disorder (PTSD).		
43. I participate in peer evaluation of skills on disaster preparedness and response.	4.4	0.7
44. I would feel confident providing education on coping skills and training to patients who experience traumatic situations so they will be able to manage themselves.	4.6	0.9
45. I am familiar with how to perform a focused health assessment for PTSD.	4.7	0.7
46. I feel confident managing (treating, evaluating) emotional outcomes of acute stress disorder or PTSD following disaster or trauma in a multidisciplinary way such as referrals and follow-ups, and I know what to expect in the following months.	4.6	0.6
TOTAL MEAN DEPT	4.4	0.4
Psychological Preparedness (MEAN, SD)	M	SD
1. I am familiar with the natural hazard/disaster preparedness materials relevant to my area.	2.2	0.8
2. I know which household preparedness measures are needed to stay safe in a natural hazard/disaster.	2.2	0.8
3. I know how to adequately prepare my home for the forthcoming fire/flood/cyclone season.	2.4	0.8
4. I know what to look out for in my home and workplace if an emergency weather situation should develop.	2.6	0.7
5. I am familiar with the disaster warning system messages used for extreme weather events.	2.3	0.8

6. I am confident that I know what to do and what actions to take in a severe weather situation.	2.3	0.7
7. I would be able to easily locate the natural hazard/disaster preparedness materials in a warning situation.	2.3	0.7
8. I am knowledgeable about the impact that a natural hazard/disaster can have on my home.	2.8	0.6
9. I know the difference between a disaster warning and a disaster watch situation.	2.6	0.7
10. I am familiar with the weather signs of an approaching fire/flood/cyclone.	2.6	0.6
11. I think that I am able to manage my feelings pretty well in difficult and challenging situations.	3.0	0.6
12. In a natural hazard/disaster situation, I would be able to cope with my anxiety and fear.	2.9	0.6
13. I seem to be able to stay cool and calm in most difficult situations.	3.0	0.6
14. I feel reasonably confident in my own ability to deal with stressful situations in which I might find myself.	3.1	0.6
15. When necessary, I can talk myself through challenging situations.	3.2	0.5
16. If I found myself in a natural hazard/disaster situation, I would know how to manage my own response to the situation.	3.1	0.6
17. I know which strategies I could use to calm myself in a natural hazard/disaster situation.	3.0	0.5
18. I have a good idea of how I would likely respond in an emergency situation.	2.8	0.6
TOTAL MEAN	2.7	0.3

4.5 Research Question 2:

Are there any associations between disaster preparedness and psychological disaster preparedness levels and nurses' resilience, personality traits (dispositional optimism and trait anxiety), organizational factors of the work environment, nurse-nurse interaction, and nurses' personal and professional factors?

Pearson correlation analyses

To examine the research question, Pearson correlation analyses were conducted to investigate associations between disaster preparedness and psychological disaster preparedness and various factors. Results are presented in Table 6.

Organizational Factors

Correlation analysis revealed significant positive associations between disaster preparedness and various organizational factors. Notably, nurse participation in hospital affairs, nursing foundations for quality of care, nurse manager ability, leadership, support of nurses, staffing and resource adequacy, collegial nurse-physician relations, and nurse-nurse interaction were all positively correlated with disaster preparedness ($p < 0.01$). Similarly, psychological disaster preparedness showed positive correlations with the same organizational factors, although the magnitudes of these associations were generally smaller ($p < 0.01$). While most organizational factors were significantly correlated with disaster preparedness, only nurse-nurse interaction showed a weak positive correlation with psychological disaster preparedness.

Personality Traits and Resilience

For personality traits, disaster preparedness demonstrated significant negative correlations with trait anxiety ($p < 0.01$). Conversely, psychological disaster preparedness exhibited significant positive correlations with resilience ($p < 0.01$). Dispositional optimism did not show a significant correlation with either disaster preparedness or psychological disaster preparedness.

Personal and Professional Characteristics

Among personal and professional characteristics, age showed a significant positive correlation with psychological disaster preparedness, while clinical experience and clinical experience in the present ward positively correlated with both disaster preparedness and psychological disaster preparedness ($p < 0.01$). Age did not show a significant correlation with either disaster preparedness or psychological disaster preparedness. The number of disaster training days in the past year did not significantly correlate with disaster preparedness. These non-significant correlations imply that, in the current study, age and the number of disaster training days in the past year may not be key determinants of disaster preparedness among nurses.

Table 6: Correlation Matrix of Organizational Factors, Personal and Professional Characteristics, Personality Traits, and Disaster Preparedness (Disaster preparedness and Psychological)

	Disaster preparedness		Psychological disaster preparedness	
	r	p-value	r	p-value
Age	-.08	0.3	.24	0.01
Clinical experience as a nurse	.15	0.01	.23	0.01
Clinical experience in the present ward	.18	0.01	.23	0.01
Number of disaster training days in the past year	.07	0.4	-.03	0.5
Resilience	-.48	0.4	.37	0.01
Dispositional optimism	-.68	0.4	.95	0.3
Trait anxiety	-.18	0.01	.68	0.4
Nurse participation in hospital affairs	.44	0.01	.31	0.01

	Disaster preparedness		Psychological disaster preparedness	
	r	p-value	r	p-value
Nursing foundations for quality of care	.38	0.01	.31	0.01
Nurse manager ability, leadership, and support of nurses	.38	0.01	.25	0.01
Staffing and resource adequacy	.48	0.01	.26	0.01
Collegial nurse-physician relations	.48	0.01	.26	0.01
Nurse-Nurse Interaction	.17	0.01	.34	0.01
Organizational factors	.46	0.01	.36	0.01

4.6 Research Question 3:

Are there differences in the disaster preparedness and psychological disaster preparedness levels based on nurses' personal and professional characteristics, including gender, disaster education, disaster training at the place of work, prior experience in managing a disaster, and completion of an advanced nursing course?

In order to examine the research question, independent samples t-test analyses were conducted to investigate variations in disaster preparedness and psychological disaster preparedness among nurses, specifically considering gender, disaster medicine as part of the Bachelor's degree (disaster education), disaster training at the place of work, prior experience in managing a disaster, and completion of an advanced nursing course. Results are presented in Table 7.

Gender

Independent samples t-test analysis indicated significant differences in both disaster preparedness and psychological disaster preparedness between female and male nurses, with female nurses scoring lower on disaster preparedness and higher on psychological disaster preparedness ($p < 0.01$).

Disaster education

Those without disaster medicine as part of their Bachelor's degree did not significantly differ from those with such education in disaster preparedness ($t=0.59$, $p=0.29$). In terms of psychological disaster preparedness, no significant difference was found between the two groups ($t=0.58$, $p=0.26$).

Disaster training at place of work

Those without disaster training at their place of work did not significantly differ from those with such training in disaster preparedness ($t=-4.32$, $p=0.29$). In terms of psychological disaster preparedness, no significant difference was found between the two groups ($t=-0.46$, $p=0.26$).

Prior experience in managing a disaster

Nurses with prior experience in managing a disaster scored significantly higher on both disaster preparedness and psychological disaster preparedness compared to those without such experience ($t=-4.23$, $p < 0.01$).

Advanced nursing course

Nurses who had completed an advanced nursing course scored significantly higher on both disaster preparedness and psychological disaster preparedness ($t=-3.56$, $p < 0.01$).

Table 7: Comparative Analysis of Disaster preparedness and Psychological Disaster Preparedness by Demographic and Educational Variables

		Disaster preparedness		t-test	P	Psychological disaster preparedness		t-test	p
		M	SD			M	SD		
Gender	Female	2.43	.39	1.43	.01	2.85	.35	3.17	.01
	Male	2.51	.43						
Disaster education	No	2.46	.41	.59	.29	2.76	.38	.58	.26
	Yes	2.42	.48						
Disaster training at place of work:	No	2.33	.39	-4.32	.31	2.73	.45	-.46	.32
	Yes	2.53	.41						
Prior experience in managing a disaster	No	2.40	.39	-2.09	.02	2.60	.36	-4.23	.01
	Yes	2.58	.44						
Advanced nursing course	No	2.37	.40	-3.56	.01	2.60	.36	-5.20	.01
	Yes	2.54	.41						

This analysis provides insights into the nuanced differences in disaster preparedness levels among nurses, emphasizing the role of individual characteristics and educational background in shaping their preparedness for both disaster preparedness and psychological aspects of disaster response.

4.7 Research Question 4:

What are the predictors of disaster preparedness and psychological disaster preparedness levels among nurses working in hospitals in Israel, considering disaster education, disaster training at the place of work, prior experience in managing a disaster, resilience, personality traits (dispositional optimism and trait anxiety), organizational factors, nurse-nurse interaction, and personal and professional characteristics?

Predictors of Disaster Preparedness

To answer the research question, a multiple linear regression analysis was initially conducted to identify predictors of the disaster preparedness aspect of disaster preparedness (see Table 8). This section delves into the details of the multiple linear regression analysis, which aims to discern the significant factors having an impact on disaster preparedness among nurses. The results presented in Table 9 illuminate the magnitude and significance of each variable.

Organizational Factors

The study revealed that increased nurse participation in hospital affairs ($B=0.28$, $SE=0.07$, $t=3.72$, $p=0.01$, 95% CI [0.13, 0.43]) and nurse manager ability, leadership, and support ($B=0.20$, $SE=0.07$, $t=2.95$, $p=0.01$, 95% CI [0.34, 0.70]) significantly enhance disaster preparedness. Robust positive associations were also found with staffing and resource adequacy ($B=0.29$, $SE=0.04$, $t=6.86$, $p=0.01$, 95% CI [0.21, 0.37]) and collegial nurse-physician relations ($B=0.17$, $SE=0.04$, $t=3.57$, $p=0.01$, 95% CI [0.07, 0.27]). While the nursing foundations for quality of care ($B=0.11$, $SE=0.07$, $t=1.47$, $p=0.14$, 95% CI [-0.03, 0.26]) suggested a positive but not statistically significant relationship, nurse-nurse interaction ($B=-0.09$, $SE=0.04$, $t=-2.00$, $p=0.04$, 95% CI [-0.19, 0.02]) showed that higher satisfaction with peer

interactions correlates with better preparedness, highlighting the critical role of a supportive and well-resourced nursing environment.

Personality

Trait anxiety ($B=-0.25$, $SE=0.08$, $t=-2.93$, $p=0.01$, 95% CI $[-0.08, -0.43]$): Increased trait anxiety was associated with lower disaster preparedness, emphasizing the role of individual psychological factors.

Personal and Professional Factors

The study found that male nurses ($B=0.12$, $SE=0.05$, $t=2.45$, $p=0.01$, 95% CI $[0.02, 0.22]$) exhibit higher levels of disaster preparedness. Additionally, nurses who completed advanced nursing courses ($B=0.10$, $SE=0.04$, $t=2.34$, $p=0.02$, 95% CI $[0.01, 0.19]$) also showed higher preparedness levels. Increased clinical experience ($B=0.001$, $SE=0.001$, $t=2.27$, $p=0.02$, 95% CI $[0.00, 0.01]$) and clinical experience in the current ward ($B=0.01$, $SE=0.001$, $t=2.25$, $p=0.02$, 95% CI $[0.001, 0.02]$) were positively associated with better preparedness. The multiple linear regression model explained 37.0% of the variance in disaster preparedness and was statistically significant overall ($F=15.56$, $df=12$, $p<0.01$).

Table 8: Multiple Linear Regression Analysis of Factors Associated with Disaster Preparedness among Nurses

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95%CI
Nurse participation in hospital affairs	.28	.07	3.72	.01	[.13,.43]
Nursing foundations for quality of care	.11	.07	1.47	.14	[-.03,.26]
Nurse manager ability, leadership and support of nurses	.20	.07	-2.95	.01	[-.34,-.70]
Staffing and resource adequacy	.29	.04	6.86	.01	[.21,.37]
Collegial nurse-physician relations	.17	.04	3.57	.01	[.07,.27]
Nurse-nurse interaction	.09	.04	2.00	.04	[-.19,.02]
Trait anxiety	-.25	.08	-2.93	.01	[-.08,-.43]
Gender (men)	.12	.05	2.45	.01	[.22,.02]
Advanced nursing course	.10	.04	2.34	.02	[.10,.19]
Clinical experience	.00	.00	2.27	.02	[.01,.00]
Clinical experience in the present ward	.01	.00	2.25	.02	[.00,.02]

$R^2=37.0\%$, $df=12$, $F=15.56$, $p<0.01$

Predictors of Psychological Disaster Preparedness

Next step a multiple linear regression analysis was conducted to identify predictors of psychological disaster preparedness (See Table 9). This section provides an in-depth exploration of the multiple linear regression analysis, focusing on identifying significant factors having an impact on psychological disaster preparedness among nurses. The detailed results, as presented in Table 9, shed light on the impact of each variable on psychological preparedness.

Organizational Factors

The study found that increased nurse participation in hospital affairs ($B=0.14$, $SE=0.07$, $t=2.10$, $p=0.03$, 95% CI [0.00, 0.28]), robust nursing foundations for quality of care ($B=0.25$, $SE=0.07$, $t=3.41$, $p=0.01$, 95% CI [0.10, 0.39]), and supportive nurse manager leadership ($B=0.25$, $SE=0.06$, $t=3.93$, $p=0.01$, 95% CI [0.12, 0.38]) significantly contribute to higher levels of psychological disaster preparedness. Additionally, optimal staffing and resource adequacy ($B=0.14$, $SE=0.04$, $t=3.66$, $p=0.01$, 95% CI [0.06, 0.22]) as well as positive nurse-nurse interactions ($B=0.16$, $SE=0.04$, $t=3.64$, $p=0.01$, 95% CI [0.07, 0.25]) were associated with enhanced psychological preparedness. However, collegial nurse-physician relations ($B=-0.04$, $SE=0.04$, $t=-0.93$, $p=0.34$, 95% CI [-0.13, 0.04]) did not show a significant impact on psychological disaster preparedness.

Resilience

Resilience ($B=0.35$, $SE=0.05$, $t=6.58$, $p=0.01$, 95% CI [0.25, 0.46]): A substantial positive contribution signifies that higher levels of resilience are strongly associated with increased psychological disaster preparedness.

Personal and Professional Factors

The study found that older age ($B=0.10$, $SE=0.00$, $t=2.77$, $p=0.01$, 95% CI [0.00, 0.01]) and increased clinical experience ($B=0.01$, $SE=0.001$, $t=2.00$, $p=0.04$, 95% CI [0.001, 0.01]), including experience in the present ward ($B=0.01$, $SE=0.001$, $t=3.02$, $p=0.01$, 95% CI [0.001, 0.02]), positively contribute to psychological disaster preparedness. However, being male ($B=-0.24$, $SE=0.04$, $t=-5.41$, $p=0.01$, 95% CI [-0.33, -0.15]) was negatively associated with psychological preparedness. Completion

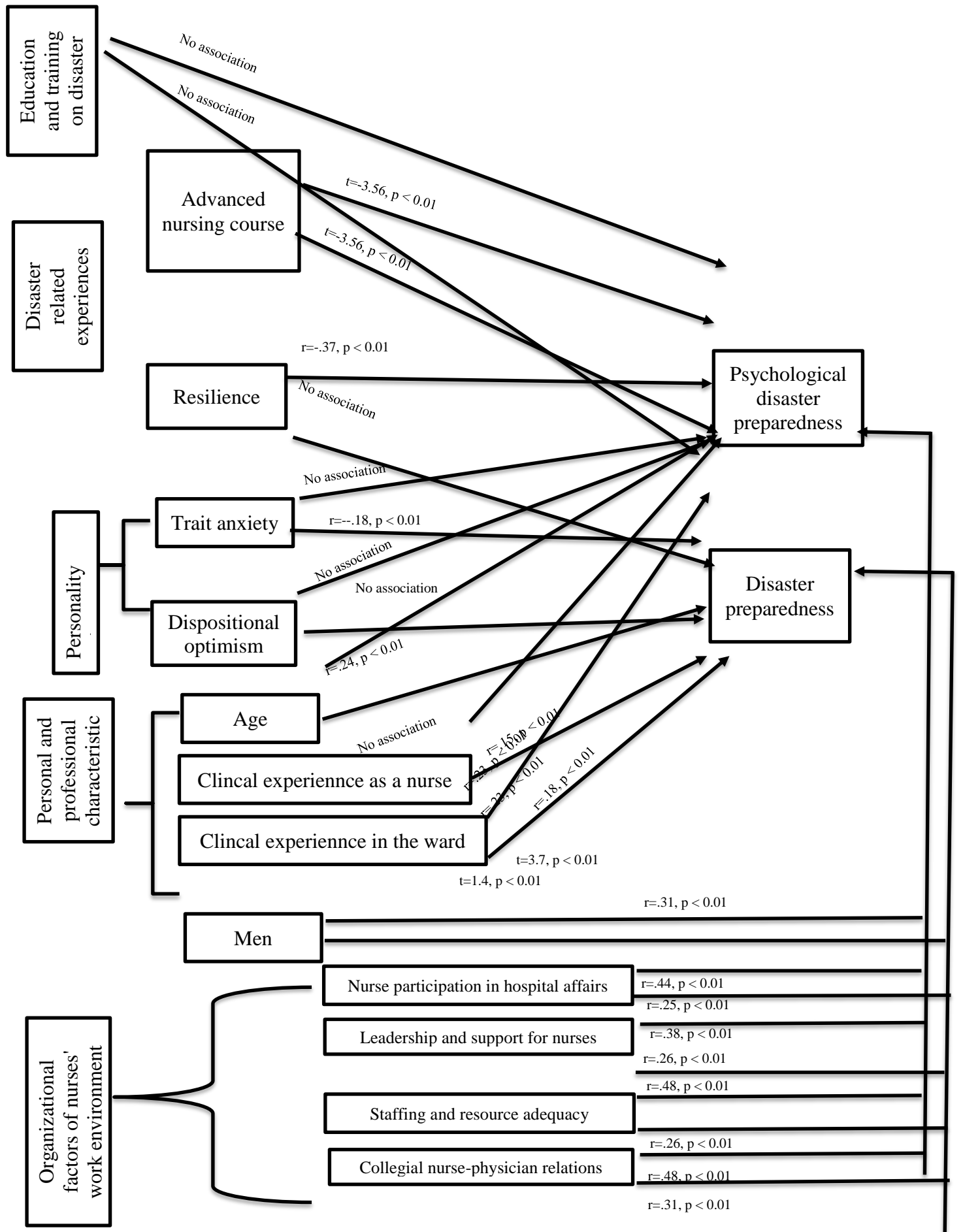
of an advanced nursing course ($B=0.04$, $SE=0.04$, $t=0.95$, $p=0.34$, 95% CI [-0.04, 0.12]) did not show a significant impact on psychological disaster preparedness.

The multiple linear regression model explained 38.7% of the variance in psychological disaster preparedness. The overall model was statistically significant ($F=15.45$, $df=13$, $p<0.01$). Based on these regression findings, the research model has been adapted according to the results (see Figure 3).

Table 9: Multiple Linear Regression Analysis Predicting Factors Influencing Psychological Disaster Preparedness among Nurses

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95%CI
Nurse participation in hospital affairs	.14	.07	2.10	.03	[.00,.28]
Nursing foundations for quality of care	.25	.07	3.41	.01	[.10,.39]
Nurse manager ability, leadership and support of nurses	-.25	.06	-3.93	.01	[-.38,-.12]
Staffing and resource adequacy	.14	.04	3.66	.01	[.06,.22]
Collegial nurse-physician relations	-.04	.04	-.93	.34	[-.13,.04]
Nurse-nurse interaction	.16	.04	3.64	.01	[.07,.25]
Resilience	.35	.05	6.58	.01	[.25,.46]
Age	.10	.00	2.77	.01	[.00,.01]
Gender (men)	-.24	.04	-5.41	.01	[-.33,-.15]
Disaster training at place of work	-.06	.04	-1.55	.12	[-.15,.01]
Advanced nursing course	.04	.04	0.95	.34	[-.04,.12]
Clinical experience	-.01	.00	-2.00	.04	[-.01,-.00]
Clinical experience in the present ward	.01	.00	3.02	.01	[.00,.02]

$R^2=38.7\%$, $df=13$, $F=15.45$, $p<0.01$



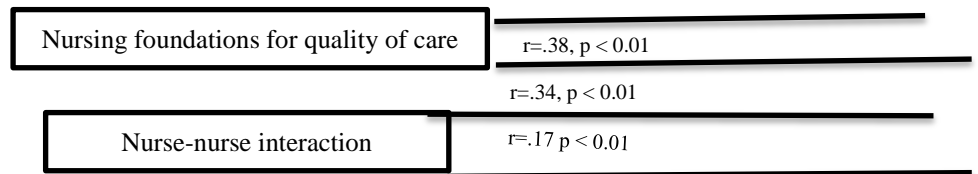


Figure 3: The Final Conceptual Framework

4.8 Summary of Results

Descriptive analysis revealed varying levels of nurses' resilience, personality traits (dispositional optimism and trait anxiety), nurse-nurse interaction, organizational factors, and both disaster preparedness and psychological dimensions of disaster preparedness. Pearson correlation analysis showed significant associations between nurses' resilience, personality traits, nurse-nurse interaction, organizational factors, and disaster preparedness dimensions. Independent samples t-tests and ANOVA demonstrated significant differences in disaster preparedness levels based on individual and organizational factors. Multiple linear regression analysis identified predictors of disaster preparedness and psychological disaster preparedness among nurses. Notably, nurse participation in hospital affairs, supportive leadership, staffing and resource adequacy, collegial nurse-physician relations, positive nurse-nurse interaction, lower trait anxiety, male gender, completion of advanced nursing courses, and increased clinical experience emerged as significant predictors.

Chapter Five

Discussion

5.1 Introduction

This chapter delves into the findings of this study regarding disaster preparedness among nurses in Israeli hospitals, examining disaster preparedness. This chapter aims to synthesize the insights derived from this research, highlighting the roles of organizational factors, personal characteristics, and training experiences in shaping nurses' readiness for disaster situations., ultimately suggesting areas for targeted interventions and policy development to improve readiness in healthcare settings.

5.2 Main Results

In this study, nurses demonstrated a moderate level of disaster preparedness. This finding is consistent with several studies that found that nurses had a moderate level of disaster preparedness (Abuadas & Albikawi, 2022; Alan et al., 2022; Rizqillah & Suna, 2018; Usher et al., 2015), but in contrast with the low-to-moderate preparedness levels reported in other studies (Labrague et al., 2018; Martono et al., 2019; McNeill et al., 2020; Murphy et al., 2021; Said & Chiang, 2020; Songwathana & Timalina, 2021). These differences in preparedness levels may be attributed to global initiatives aimed at improving disaster preparedness, as well as to the potential impact of various personal and organizational/environmental factors.

This finding suggests that, collectively, nurses possess a commendable degree of preparedness, affirming their capability to respond effectively to disasters (Holdo, 2021). However, this moderate preparedness level suggests that while there is a foundation for effective response, there may be room for improvement through

targeted interventions or educational initiatives to further enhance nurses' readiness for instrumental aspects of disaster management.

The findings regarding disaster preparedness indicate a nuanced landscape characterized by moderate levels of preparedness and considerable variability among participants. This diversity in responses underscores the importance of understanding individual preparedness levels and addressing specific areas of concern to enhance overall disaster resilience (McNeill et al., 2020)

Furthermore, the findings underscore the importance of community engagement and collaboration in disaster preparedness efforts. Despite recognizing potential vulnerabilities in their communities, participants reported limited involvement in creating guidelines or emergency plans and a lack of clarity regarding whom to contact during disaster situations. This highlights the need for strengthened community networks and communication channels to facilitate effective response and coordination during crises.

Moreover, the varying levels of knowledge and preparedness for bioterrorism scenarios among participants emphasize the importance of targeted training and education initiatives. While some individuals' express confidence in using personal protective equipment, others may require additional support and resources to enhance their readiness for such specific threats. This variation in different aspects of disaster preparedness is consistent with previous research. Studies revealed that nurses attain different scores for various aspects of disaster preparedness competencies and skills, revealing the strengths and weaknesses of their disaster preparedness (Labrague et al., 2018; McNeill et al., 2020; Taskiran and Baykal, 2019).

Addressing the identified gaps and enhancing community resilience requires a comprehensive approach that encompasses education, training, community

engagement, and collaboration across various stakeholders. By targeting specific areas of concern and fostering a culture of preparedness, healthcare organizations and communities can better prepare for and respond to disasters effectively (McNeill et al., 2020).

Nurses indicated a mean score self-reported psychological disaster preparedness. These findings suggest that, on average, nurses demonstrate moderate levels of psychological preparedness. This finding is consistent with the limited available research. Thus, an Indian study found that nurses exhibited moderate psychological preparedness during the management of COVID-19 (Gandhi et al., 2021). Similarly, an international cross-sectional study assessing nurses' psychological readiness for disaster relief revealed a moderate level of preparedness (Said et al., 2020).

The findings regarding psychological disaster preparedness among nurses reveal a nuanced landscape of preparedness levels, suggesting that a one-size-fits-all approach may not be effective in addressing the diverse needs of nurses in disaster situations. The moderate average level of psychological preparedness highlights that while many nurses possess a baseline level of readiness, there is considerable variability within the group, with some demonstrating higher levels of preparedness and others indicating areas for improvement. This variability underscores the complexity of psychological preparedness and the need for tailored interventions that take into account individual differences in coping mechanisms, stress tolerance, and emotional resilience.

The low awareness of natural hazard/disaster preparedness materials and mixed understanding of household preparedness measures and weather signs indicate potential gaps in knowledge among nurses, which could impact their ability to

respond effectively in disaster situations. Addressing these knowledge gaps through targeted educational initiatives can help ensure that nurses are equipped with the necessary information to recognize warning signs, make informed decisions, and take appropriate actions during emergencies. Additionally, enhancing nurses' confidence in managing their emotional responses and providing them with practical coping strategies can bolster their resilience and help mitigate the psychological impact of disaster response.

Furthermore, promoting the development of personal/family emergency plans and fostering a culture of preparedness within healthcare organizations can empower nurses to not only safeguard themselves and their families but also contribute more effectively to disaster response efforts. By integrating psychological preparedness into broader disaster preparedness initiatives and providing comprehensive support mechanisms, healthcare organizations can better support the well-being of nurses and enhance their overall resilience in the face of adversity. This approach acknowledges the multidimensional nature of disaster preparedness and emphasizes the importance of addressing both disaster preparedness and psychological aspects to ensure a robust and effective response to emergencies.

In conclusion, the findings regarding the levels of disaster preparedness and psychological disaster preparedness among nurses in Israeli hospitals unveil a multifaceted landscape characterized by moderate levels of preparedness with variations among individuals. The assessment of disaster preparedness reveals that nurses, on average, exhibit a commendable degree of preparedness, suggesting a foundation for effective disaster response. However, there are notable areas for improvement, particularly in response coordination, community engagement, and preparedness for specific threats such as bioterrorism.

Similarly, the examination of psychological disaster preparedness highlights a moderate level of readiness among nurses, with variability observed among individuals. While many nurses demonstrate a baseline level of psychological preparedness, there are opportunities for enhancing coping mechanisms, stress tolerance, and emotional resilience through targeted interventions and support mechanisms. Addressing knowledge gaps, promoting the development of personal/family emergency plans, and fostering a culture of preparedness within healthcare organizations are crucial steps in empowering nurses to effectively manage the psychological impact of disaster situations.

Overall, the findings underscore the importance of recognizing and addressing both disaster preparedness and psychological aspects of disaster preparedness to ensure a robust and effective response to emergencies. By prioritizing targeted interventions, education, and support, healthcare organizations and communities can strengthen the resilience of nurses and enhance their capacity to navigate and mitigate the impact of disasters. These efforts are essential for ensuring the safety and well-being of both patients and healthcare providers in times of crisis.

Correlation analysis revealed significant positive associations between disaster preparedness and various organizational factors. Notably, nurse participation in hospital affairs, nursing foundations for quality of care, nurse manager ability, leadership, support of nurses, staffing and resource adequacy, collegial nurse-physician relations, and nurse-nurse interaction were all positively correlated with disaster preparedness. Notably, while most organizational factors were significantly correlated with disaster preparedness, only nurse-nurse interaction showed a weak positive correlation.

Regarding leadership, these findings align with previous research indicating the pivotal role of effective leadership in disaster preparedness (Al Harthi et al., 2020). Strong leadership is crucial for guiding response efforts, fostering collaboration, and ensuring efficient resource allocation during chaotic situations. Studies have consistently shown a positive relationship between leadership quality and nurses' disaster preparedness (Lim et al., 2020; Hutchison, 2017). Therefore, it is unsurprising that leadership is positively correlated with disaster preparedness in the present study.

Similarly, collegial relationships among nurses have been recognized as essential for disaster preparedness (Al Harthi et al., 2020; Grochtdreis et al., 2017). Trust in colleagues' commitment and abilities fosters unity and motivates nurses to be ready to respond effectively. This study's findings reaffirm this, as significant positive correlations were observed between collegial nurse-physician relations and disaster preparedness. However, it is important to note that while nurse-nurse interaction showed a weak positive correlation in the present study, it may still play a crucial role in fostering teamwork and collaboration during disaster response, albeit to a lesser extent compared to other organizational factors (Grochtdreis et al., 2017).

Furthermore, policy-making influences nurses' disaster knowledge and preparedness (Al Thobaity et al., 2015; Basnet et al., 2016). The present study findings may suggest that other organizational factors, such as nurse participation in hospital affairs, nursing foundations for quality of care, nurse manager ability, and support of nurses, have a more significant impact on disaster preparedness compared to policy-making alone.

Overall, the present study contributes to the existing literature by providing empirical evidence of the associations between organizational factors and disaster

preparedness among nurses. While most organizational factors showed significant positive correlations with disaster preparedness, further research may be needed to explore the specific mechanisms through which nurse-nurse interaction influences disaster preparedness and to identify strategies for strengthening this aspect of the nursing work environment.

Psychological disaster preparedness is a critical aspect of nurses' readiness to cope with the emotional and psychological challenges inherent in disaster situations. In the present study, significant positive associations were found between psychological disaster preparedness and various organizational factors, highlighting the role of the work environment in fostering nurses' psychological resilience and readiness to manage stress during crises.

Strong leadership emerged as a key predictor of psychological disaster preparedness, aligning with previous research emphasizing the importance of effective leadership in disaster preparedness efforts (Al Harthi et al., 2020). Leaders who provide support, guidance, and clear communication during crises contribute to nurses' sense of confidence and security, enabling them to navigate stressful situations more effectively (Lim et al., 2020; Hutchison, 2017).

Moreover, collegial relationships among nurses were positively correlated with psychological disaster preparedness. Trust and mutual support among colleagues create a supportive work environment where nurses feel valued and empowered, enhancing their ability to cope with the psychological demands of disaster response (Al Harthi et al., 2020; Grochtdreis et al., 2017). While nurse-nurse interaction showed a weaker correlation compared to other organizational factors, it still plays a crucial role in fostering teamwork and collaboration, which are essential for maintaining psychological well-being during disasters.

Additionally, the presence of supportive policies and organizational structures, such as nurse participation in hospital affairs, nursing foundations for quality of care, and support of nurses, was associated with higher levels of psychological disaster preparedness. These findings underscore the importance of organizational support in mitigating the psychological impact of disasters on nurses (Basnet et al., 2016; Al Thobaity et al., 2015). When nurses feel supported and valued by their organization, they are better equipped to manage stress and uncertainty, leading to higher levels of psychological resilience.

Overall, the positive correlations between organizational factors and psychological disaster preparedness highlight the significance of creating a supportive work environment that prioritizes leadership, collaboration, and support for nurses. By addressing these organizational factors, healthcare institutions can enhance nurses' psychological resilience and readiness to cope with the challenges of disaster response, ultimately ensuring the well-being of both healthcare providers and patients during crises.

The findings of this study reveal that nurses generally exhibit high levels of dispositional optimism, with a mean score of 3.25, and moderately low levels of trait anxiety, with a mean score of 3.01. These results suggest that nurses tend to have a positive outlook and maintain a calm demeanor in their professional environment. Understanding the relationship between these personal traits is crucial for several reasons.

Trait anxiety, which indicates a predisposition towards experiencing anxiety, showed a significant negative correlation with disaster preparedness. This suggests that higher levels of trait anxiety may impair a nurse's ability to effectively prepare for and respond to disasters in a practical sense. However, no association was found

between trait anxiety and psychological disaster preparedness, indicating that anxiety levels do not significantly impact nurses' mental readiness for disasters.

These findings align with previous studies, such as Short et al. (2022), which suggest that trait anxiety can have adverse effects on individuals when they encounter traumatic incidents. High levels of trait anxiety may hinder the practical aspects of disaster preparedness, potentially compromising the effectiveness of nurses in emergencies. Conversely, the lack of association with psychological preparedness implies that trait anxiety does not necessarily affect the mental resilience or psychological strategies that nurses employ during disasters.

Understanding these dynamics is essential for developing targeted interventions aimed at reducing trait anxiety and enhancing overall disaster preparedness among nurses. By fostering a more optimistic outlook and addressing anxiety levels, healthcare organizations can better equip their nursing staff to handle both the practical and psychological challenges of disaster situations. Specifically, nurses with higher levels of trait anxiety may struggle with the practical aspects of disaster preparedness, such as implementing protocols and procedures during emergencies. However, the lack of association with psychological disaster preparedness suggests that trait anxiety may not directly influence nurses' ability to cope with the emotional aftermath of disasters, which may be more influenced by other factors such as resilience and coping strategies.

On the other hand, dispositional optimism, which reflects a tendency to anticipate positive outcomes, did not show a significant correlation with either disaster preparedness or psychological disaster preparedness. This finding contrasts with previous research indicating that dispositional optimism can act as a protective factor against the negative repercussions of traumatic experiences (Cruz et al., 2018).

While optimism has been linked to enhanced coping strategies and reduced psychological distress in various contexts (Gandhi et al., 2021; Said et al., 2020), the present study suggests that it may not directly impact nurses' preparedness for or response to disasters. This discrepancy highlights the complexity of the relationship between dispositional optimism and disaster preparedness and underscores the need for further exploration in this area.

Overall, the present study findings provide valuable insights into the role of personality traits in nurses' disaster preparedness. While trait anxiety appears to hurt disaster preparedness, its influence on psychological preparedness is less clear. Additionally, the lack of association between dispositional optimism and disaster preparedness suggests that other factors may play a more significant role in shaping nurses' readiness for and response to disasters. Further research is needed to better understand the mechanisms underlying these relationships and to inform interventions aimed at enhancing nurses' preparedness and resilience in the face of emergencies.

This study found a significant positive correlation between resilience and psychological disaster preparedness among nurses. This finding is consistent with previous research suggesting that resilience plays a crucial role in helping individuals navigate and cope with difficult situations (Huey & Palaganas, 2020). Resilient individuals are better equipped to thrive in the face of challenges and are more likely to exhibit adaptive coping strategies, such as optimism and self-efficacy, which contribute to their psychological preparedness for managing crises (Gandhi et al., 2021).

However, this study did not find an association between resilience and disaster preparedness. This finding may be attributed to the multifaceted nature of resilience, which can be influenced by individual, environmental, and organizational factors

(Huey & Palaganas, 2020). While resilience may enhance nurses' ability to cope with the psychological aspects of disasters, it may not directly impact their readiness to implement protocols and procedures during emergencies. Other factors, such as leadership and organizational support, may play a more significant role in facilitating disaster preparedness among nurses (Madrigano et al., 2017).

In summary, the findings of the present study highlight the importance of resilience in bolstering psychological preparedness among nurses, particularly during disasters. However, further research is needed to explore the complex interplay between resilience and disaster preparedness, as well as the underlying mechanisms that influence nurses' readiness to respond to emergencies. Understanding these relationships can inform interventions aimed at enhancing nurses' resilience and preparedness for managing crises effectively.

The analysis of correlations between disaster preparedness and various personal and professional characteristics provides valuable insights into the factors influencing nurses' disaster preparedness. In this study, age exhibited a significant positive correlation with psychological disaster preparedness. This suggests that older nurses may possess greater psychological resilience or coping mechanisms when faced with disaster situations, which could contribute to their preparedness in managing the psychological aspects of disasters.

Moreover, clinical experience as a nurse, both overall and within the current ward, was positively correlated with both disaster preparedness and psychological disaster preparedness. This finding underscores the importance of hands-on experience in enhancing nurses' preparedness across different dimensions of disaster response. Nurses with more extensive clinical experience may have encountered a

wider range of challenging situations, thereby developing the skills and confidence necessary to effectively respond to disasters.

Similarly, Said et al. (2020) found that nurses' psychological disaster preparedness was positively associated with older age and more years of experience. This implies that older nurses with extended clinical experience are more likely to encounter emergencies and thus acquire the knowledge and skills needed to effectively manage them. Similarly, previous research conducted among the general population has suggested that older individuals are less likely to face barriers to disaster preparedness. Older individuals often possess prior disaster experiences, which help them understand the risks, develop resilience, and know how to prepare effectively (Cong et al., 2021).

Moreover, clinical experience has been previously found to positively correlate with disaster preparedness (Alan et al., 2022; Rizqillah & Suna, 2018; Taskiran & Baykal, 2019). It has been suggested that as nurses gain more experience and years in their profession, their critical thinking and communication skills tend to improve. This enhanced skill set can contribute to a higher level of disaster preparedness, allowing them to effectively handle challenging situations (Taskiran & Baykal, 2019).

Interestingly, while age exhibited a significant positive correlation with psychological disaster preparedness, no significant association was observed with disaster preparedness. This is contrary to previous research, which has indicated a positive association between age and disaster preparedness (Taskiran & Baykal, 2019). The lack of significant association between age and disaster preparedness, despite its positive correlation with psychological disaster preparedness in the present study, could be attributed to several factors. Age may have a more direct impact on

psychological resilience and coping mechanisms rather than on the practical skills and preparedness required for disaster preparedness response. Older nurses may have developed psychological strategies over time to manage stress and anxiety associated with disasters, leading to higher psychological preparedness scores. However, disaster preparedness may be influenced by factors such as recent training, hands-on experience, and access to resources, which may not necessarily correlate strongly with age.

Additionally, the nature of disaster preparedness involves practical skills, knowledge of protocols, and access to resources, which may be more influenced by recent training and work experience rather than age alone. Younger nurses, for example, may have received more recent training or may be more adept at using technological tools relevant to disaster response, leading to similar or even higher disaster preparedness scores compared to older counterparts.

Furthermore, the specific demographic characteristics and career trajectories of older nurses in the study may vary, leading to a more heterogeneous distribution of disaster preparedness scores within this age group. Without accounting for additional factors such as recent training, specific job roles, or years of experience in disaster response, the correlation between age and disaster preparedness may not reach statistical significance. Overall, while age may play a role in shaping nurses' psychological preparedness, other factors such as training, experience, and access to resources are likely to have a more direct influence on disaster preparedness.

Interestingly, the number of disaster training days in the past year did not show any significant association with either disaster preparedness or psychological disaster preparedness. This suggests that the frequency of disaster training alone may not be a determining factor in nurses' preparedness levels. Instead, it may be the

quality and relevance of such training programs that play a more significant role in shaping nurses' preparedness to respond to disasters effectively. These findings highlight the multifaceted nature of disaster preparedness and underscore the importance of considering various personal and professional factors in designing comprehensive training and support programs for nurses in disaster management contexts.

In conclusion, the study provides valuable insights into the complex interplay between various factors influencing nurses' disaster preparedness. Organizational support, effective leadership, collegial relationships, and resilience emerged as significant predictors of nurses' readiness to respond to disasters. Personality traits such as trait anxiety and dispositional optimism also played a role in shaping nurses' preparedness levels, albeit to varying degrees. Furthermore, personal and professional characteristics, including age, clinical experience, and training, contributed to nurses' readiness for disaster response. By understanding these multifaceted relationships, healthcare organizations can develop tailored interventions and support programs aimed at enhancing nurses' preparedness and resilience in disaster management contexts, ultimately ensuring the delivery of high-quality care in times of crisis.

The results of the study reveal variations in disaster preparedness and psychological disaster preparedness among nurses based on personal and professional characteristics, as well as disaster education, disaster training at the place of work, and prior experience in managing a disaster. The examination of these factors through independent samples t-test analyses yielded valuable insights into the nuanced differences that may influence nurses' preparedness for both disaster preparedness and psychological dimensions of disaster preparedness.

Gender emerged as a significant factor influencing disaster preparedness, with female nurses exhibiting lower scores in disaster preparedness compared to their male counterparts. This finding is consistent with a previous study (Taskiran & Baykal, 2019). The lower scores in disaster preparedness among female nurses compared to their male counterparts may stem from various factors, including gender stereotypes influencing roles assigned to female nurses, fewer opportunities for training and advancement, perceived self-efficacy issues, challenges in balancing work and personal responsibilities, and potential organizational biases.

However, female nurses exhibited higher scores in psychological disaster preparedness compared to their male counterparts. This gender disparity suggests potential differences in coping mechanisms and responses to disaster-related stressors. Female nurses may demonstrate a higher level of psychological preparedness but might face challenges in translating this into instrumental actions during a disaster.

Similarly, a study by Said et al. (2020) uncovered that female nurses tend to exhibit higher psychological preparedness than their male counterparts. This could be attributed to several factors, including the greater dispositional optimism of female nurses, their tendency to be more open and willing to share their thoughts and feelings with others, and their active seeking of advice and support, which can alleviate Post Traumatic Stress Disorder and anxiety. In contrast, some male nurses may be inclined to keep their emotions and thoughts to themselves, opting to solve problems independently (Said et al., 2020). Understanding and addressing these gender-specific nuances are crucial for tailoring effective disaster preparedness interventions.

The inclusion of disaster medicine as part of the Bachelor's degree did not yield significant differences in disaster preparedness between nurses with and without such education. Similarly, no significant distinction was found in psychological disaster

preparedness. This suggests that the presence of disaster medicine in academic training may not be a decisive factor in shaping nurses' preparedness for disaster situations. Alternative factors, such as practical training and hands-on experiences, may play a more substantial role in enhancing preparedness. There is evidence that formal disaster medicine education is not necessarily positively associated with competence related to disaster management (Murphy et al., 2021).

The analysis of disaster training at the workplace revealed no significant differences in disaster preparedness or psychological disaster preparedness between nurses who received training at their workplace and those who did not. This is contrary to previous studies that suggest that training in disaster management is a vital factor in enhancing nurses' disaster preparedness, as it increases nurses' knowledge and skills required for disaster management (Alan et al., 2022; Labrague et al., 2018; Murphy et al., 2021; Songwathana & Timalisina, 2021; Usher et al., 2015). This unexpected finding may indicate that, in this specific study, workplace training alone may not be sufficient to create significant distinctions in disaster preparedness levels among nurses. It emphasizes the need for a more comprehensive approach to training that incorporates various educational modalities and considers individual differences.

Nurses with prior experience in managing a disaster demonstrated significantly higher scores in both disaster preparedness and psychological disaster preparedness compared to those without such experience. This underscores the widely acknowledged notion that practical exposure and experience play a pivotal role in one's ability to respond effectively in disaster situations. The research underscores the importance of disaster experience in enhancing nurses' disaster preparedness, as it bolsters their knowledge and skills essential for competent disaster management (Al-

Ali & Ibaid, 2015; Alan et al., 2022; Labrague et al., 2018; Rizqillah & Suna, 2018; Songwathana & Timalsina, 2021).

Notably, this study bridges the research gap, indicating that experience holds promise in enhancing psychological disaster preparedness as well. Supporting this notion, Said et al. (2020) found a correlation between the frequency of nurses' engagement in disaster response and their psychological preparedness. The findings underscore the importance of providing opportunities for nurses to engage in real-world disaster scenarios to enhance their preparedness.

Furthermore, nurses who had completed an advanced nursing course scored significantly higher in both disaster preparedness and psychological disaster preparedness. This highlights the potential benefits of advanced education in nursing, extending beyond clinical skills to encompass preparedness for disaster response. Advanced courses may equip nurses with a broader skill set and a more comprehensive understanding of their role in disaster management.

In conclusion, the study's third research hypothesis, which posited differences in the level of disaster preparedness and psychological disaster preparedness based on personal and professional characteristics, as well as disaster education, disaster training at the place of work, and prior experience in managing a disaster, is generally supported by the observed variations. These findings underscore the importance of tailoring disaster preparedness interventions to address individual differences, acknowledging the impact of gender, practical experience, and advanced education on nurses' readiness to respond to disasters. Future initiatives should consider these nuanced factors to develop more targeted and effective training programs for healthcare professionals in disaster management.

The multiple linear regression analyses conducted to explore Research question 4 shed light on the contribution of the various elements encompassing organizational factors, resilience, personality traits, disaster education, disaster training at the place of work, prior experience in managing a disaster as well as nurses' personal and professional characteristics, on the disaster preparedness and psychological dimensions of disaster preparedness.

In terms of disaster preparedness, organizational factors such as nurse participation in hospital affairs, nurse manager ability, leadership, and support of nurses, staffing and resource adequacy, collegial nurse-physician relations, and nurse-nurse interaction all exhibited positive associations. This suggests that a supportive organizational environment, adequate staffing levels, and positive interpersonal relationships contribute significantly to nurses' readiness to implement protocols and procedures during disasters. However, nursing foundations for quality of care did not show a significant association with disaster preparedness, indicating that this aspect may not directly impact nurses' ability to respond effectively in disaster situations.

On the other hand, personality and personal/professional factors also played a role in disaster preparedness. Higher levels of trait anxiety were negatively associated with disaster preparedness, underlining the importance of individual psychological factors in readiness for disaster response. Additionally, being male, having undergone advanced nursing courses, and possessing more clinical experience were associated with higher levels of disaster preparedness, suggesting that certain personal and professional characteristics may enhance nurses' readiness for disaster preparedness response.

When it comes to psychological disaster preparedness, similar organizational factors showed positive associations, including nurse participation in hospital affairs,

nurse manager ability, leadership, and support of nurses, staffing and resource adequacy, and nurse-nurse interaction. These findings indicate that a supportive organizational environment and positive interpersonal relationships contribute to nurses' psychological readiness to cope with disaster-related stressors. Notably, nursing foundations for quality of care also showed a positive association with psychological disaster preparedness, suggesting that a focus on quality care may enhance nurses' ability to manage psychological stress during disasters. However, collegial nurse-physician relations did not show a significant positive association with psychological disaster preparedness.

In terms of personality and personal/professional factors, resilience emerged as a significant predictor of psychological disaster preparedness, indicating that nurses with higher levels of resilience are better prepared to cope with the psychological challenges of disaster situations. Additionally, older age and greater clinical experience, both overall and in the present ward, were associated with higher levels of psychological disaster preparedness. However, being male was negatively associated with psychological disaster preparedness, suggesting that gender may influence nurses' psychological readiness for disaster response.

The comparison between disaster preparedness and psychological disaster preparedness among nurses reveals intriguing insights into the multifaceted nature of disaster preparedness. When it comes to disaster preparedness, organizational factors play a significant role. Adequate staffing and resource availability emerged as key determinants, emphasizing the importance of having sufficient personnel and materials to execute disaster protocols effectively. Moreover, active participation in hospital affairs and positive nurse-physician relations contribute to a supportive work environment conducive to efficient disaster response.

On the personal and professional front, factors such as completing advanced nursing courses and possessing clinical experience play a role in enhancing disaster preparedness. Male nurses exhibit higher levels of disaster preparedness readiness, possibly due to prior training or leadership roles. However, trait anxiety negatively affects disaster preparedness, underlining the importance of addressing individual psychological factors in disaster training programs.

In contrast, psychological disaster preparedness is influenced by a different set of factors. Resilience emerges as a critical component, highlighting the significance of psychological strength in coping with the stress and trauma associated with disasters. Supportive leadership, along with adequate staffing and resources, contributes to nurses' psychological well-being, alleviating stress and fostering resilience.

Personal characteristics such as age and clinical experience also impact psychological preparedness. Older nurses and those with experience in the present work environment exhibited higher levels of psychological readiness, suggesting accumulated coping strategies and familiarity with potential stressors. However, being male was negatively associated with psychological preparedness, indicating potential differences in coping mechanisms or social support systems.

Interpersonal relationships, particularly positive nurse-nurse interaction, play a crucial role in psychological preparedness. A supportive work environment where colleagues can rely on each other for emotional support enhances nurses' psychological resilience and readiness to handle challenging situations (Al Harthi et al., 2020; Grochtdreis et al., 2017).

Overall, addressing both disaster preparedness and psychological aspects of disaster preparedness is essential for ensuring nurses' readiness to respond effectively while maintaining their psychological well-being. Comprehensive training programs

and organizational policies that consider these diverse dimensions are vital for enhancing nurses' disaster preparedness.

In conclusion, the findings from Research Question 4 provide valuable insights into the predictors of disaster preparedness and psychological disaster preparedness among nurses working in hospitals in Israel. The multiple linear regression analyses revealed significant contributions from various elements encompassing organizational factors, resilience, personality traits, disaster education, training, prior experience, and personal/professional characteristics. For disaster preparedness, organizational factors such as leadership quality, supportive work environment, staffing adequacy, and positive interpersonal relationships emerged as significant predictors. These findings underscore the importance of a conducive organizational climate and effective leadership in facilitating nurses' readiness to implement protocols and procedures during disasters. Additionally, certain personal and professional characteristics, including trait anxiety, gender, completion of advanced nursing courses, and clinical experience, were associated with disaster preparedness, highlighting the influence of individual factors on readiness for disaster preparedness response.

On the other hand, psychological disaster preparedness was influenced by similar organizational factors, emphasizing the role of organizational support and positive interpersonal relationships in fostering nurses' psychological resilience and readiness to cope with disaster-related stressors. Resilience emerged as a significant predictor of psychological preparedness, indicating the importance of psychological strength in navigating the emotional challenges of disaster situations. Age, clinical experience, and gender also played a role in predicting psychological preparedness,

underscoring the influence of personal characteristics on nurses' readiness to manage psychological stress during disasters.

The comparison between disaster preparedness and psychological disaster preparedness highlights the multifaceted nature of disaster preparedness, with different sets of factors influencing each dimension. Adequate staffing, resource availability, and organizational support are crucial for disaster preparedness, while resilience, supportive leadership, and positive interpersonal relationships are key for psychological preparedness.

Overall, the findings underscore the importance of comprehensive training programs, supportive organizational policies, and interventions that address both disaster preparedness and psychological aspects of disaster preparedness. By considering these diverse dimensions and addressing the predictors identified in this study, healthcare organizations can enhance nurses' readiness to respond effectively to disasters while safeguarding their psychological well-being, ultimately ensuring the delivery of high-quality care in times of crisis.

5.3 Limitations

The study has several limitations that should be considered when interpreting the findings. First, the use of a self-reported questionnaire may introduce response biases, as participants might provide socially desirable answers or might not accurately recall their experiences and behaviors. Additionally, the study's cross-sectional design limits the ability to conclude causality, as it only captures a snapshot of the variables at one point in time. Longitudinal studies would be more effective in understanding the dynamics and causative factors influencing disaster preparedness over time.

The study's focus on a single medical center also restricts the generalizability of the results. Findings from this study may not apply to different healthcare settings or nurses with different demographics. Expanding the research to include a broader range of healthcare environments and diverse populations would enhance the external validity of the results. Moreover, the exclusion of practical nurses from the study may have omitted important perspectives from those who are directly involved in patient care during emergencies, potentially limiting the comprehensive understanding of disaster preparedness in nursing.

5.4 Conclusion

This study provides valuable insights into the multifaceted nature of nurses' disaster preparedness in Israeli hospital settings. Key findings highlight the critical role of organizational factors, such as effective leadership, supportive work environments, and positive interpersonal relationships, in enhancing nurses' disaster readiness. Moderate levels of disaster preparedness suggest commendable capabilities among nurses, yet underscore the need for ongoing educational initiatives and targeted interventions, particularly in response coordination, community engagement, and bioterrorism preparedness.

The variability in psychological preparedness among nurses reveals the necessity for tailored interventions that address individual coping mechanisms and stress tolerance. Enhancing psychological disaster preparedness through comprehensive support mechanisms and promoting personal and family emergency plans are crucial steps toward bolstering nurses' resilience.

Integrating psychological preparedness into broader disaster readiness initiatives is essential for supporting nurses' well-being and overall resilience. By fostering a culture of preparedness and providing comprehensive support, healthcare organizations can empower nurses to safeguard themselves, their families, and their communities more effectively during emergencies.

In conclusion, addressing disasterpreparedness is vital for ensuring a robust and effective emergency response. This comprehensive approach offers valuable insights for policymakers, healthcare administrators, and disaster management professionals aiming to enhance healthcare resilience.

5.5 Implications

5.5.1 Implications for Nursing Research

To deepen the understanding of nurses' disaster preparedness, it is recommended that future research employ longitudinal studies to monitor changes in preparedness levels over time, thus uncovering factors that contribute to sustained resilience. Comparative studies across different healthcare environments and geographic locations can provide insights into the contextual factors that impact disaster preparedness, enabling the development of targeted interventions. Additionally, cross-cultural studies are crucial for exploring cultural variations in disaster preparedness among nurses and for creating culturally sensitive training programs. Integrating mixed-methods approaches will offer a comprehensive view of nurses' experiences and challenges, enhancing the effectiveness of preparedness strategies.

5.5.2 Implications for Education

Educational programs should focus on the efficacy of targeted training initiatives, organizational policies, and support systems aimed at bolstering nurses' disaster preparedness. Simulation training is recommended to provide practical experience, thereby improving nurses' confidence and competencies in disaster response. Continuing education should cover essential topics such as emergency protocols, communication strategies, and psychological resilience. Interprofessional education should also be emphasized to promote effective collaboration among healthcare professionals involved in disaster response, ensuring a coordinated and resource-efficient response.

5.5.3 Implications for Policy-making

Policy-makers should prioritize the evaluation of disaster preparedness training and resource allocation policies to ensure their effectiveness and identify areas for improvement. Adequate resources must be allocated to provide nurses with the necessary training, materials, and support. Legislative actions should integrate disaster preparedness into the organizational culture of healthcare settings, promoting a proactive approach to emergency readiness. Collaborative partnerships among government agencies, healthcare organizations, educational institutions, and community stakeholders are essential for enhancing disaster preparedness efforts, and facilitating better coordination and resource sharing.

5.5.4 Implications for Practice

Nurses must engage in continuous disaster preparedness training to maintain and enhance their skills. Simulation-based learning should be incorporated into

educational curricula to provide hands-on experience in emergency scenarios. Nurses should also prioritize self-care and seek support from peers and supervisors to manage the psychological stress associated with disaster situations. Nurse managers play a vital role in developing and implementing comprehensive disaster preparedness plans, conducting regular training sessions to assess team readiness, and ensuring adequate resources are available to support staff during emergencies.

5.6 Recommendations

To further advance disaster preparedness in nursing, it is recommended that future research include longitudinal studies to track changes in preparedness over time. Comparative studies across different settings will help identify effective practices, while cross-cultural studies can lead to the development of universally applicable training methods. Using mixed-methods research will provide a deeper understanding of the nuances involved in disaster preparedness.

Educational programs should be evaluated for their effectiveness in improving disaster preparedness. Simulation training should be integrated to provide practical experience. Ongoing education should cover essential topics to prepare nurses for disaster scenarios, and inter professional education should be promoted to enhance collaboration among healthcare providers.

It is important to evaluate current policies on disaster preparedness training and resource allocation to identify areas for enhancement. Adequate resources should be provided, and legislative measures should emphasize the importance of disaster preparedness in healthcare settings. Collaborative efforts between various stakeholders are essential for comprehensive disaster readiness.

Nurses should participate in ongoing disaster preparedness training and advocate for simulation-based learning. Self-care practices should be prioritized to manage the psychological impacts of disaster situations. Nurse Managers should focus on comprehensive disaster planning, regular team training, and providing necessary resources for staff during emergencies.

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Appendices

Appendix A

Arab American University- Palestine
Deanship of Scientific Research
IRB committee
Tel: 04-241-8888, ext 1196
E-mail: irb.aaup@aaup.edu



الجامعة العربية الأمريكية - فلسطين
عمادة البحث العلمي
لجنة أخلاقيات البحث العلمي
تلفون: 04-241-8888 1196
البريد الإلكتروني: irb.aaup@aaup.edu

IRB Approval Letter

Study Title: "The role of resilience, personal factors, and organizational factors in predicting Nurses' disaster preparedness"

Submitted by: Omar Afeef Mohammad Wattad

Date received: 14th August 2023
Date reviewed: 7th September 2023
Date approved: 05th October 2023

Your Study titled "The role of resilience, personal factors, and organizational factors in predicting Nurses' disaster preparedness" with archived number 2023/A/156/N was reviewed by the Arab American University IRB committee and was approved on the 05th October 2023.

Ahmad Ayed, PhD
IRB Committee Member
Arab American University of
Palestine

Sajed Ghawadra, PhD
IRB Committee Vice-chairman
Arab American University of
Palestine

Reham Khalaf-Nazzal, MD,
PhD
IRB Committee Chairman
Arab American University of
Palestine

General Conditions:

1. Valid for 8 months from the date of approval.
2. It is important to inform the committee with any modification of the approved study protocol.
3. The committee appreciates a copy of the research when accomplished.



لجنة أخلاقيات البحث العلمي في الجامعة العربية الأمريكية

IRB at Arab American University

Appendix B

הנהל ליסיים רפואיים בבני אדם 2020
טופס 17
אישור המנהל לביצוע המחקר הרפואי

תאריך: 16-אוגוסט-2023

לכבוד

החוקר הראשי: מר עומר ותד

מחלקה: מלר"ד

מרכז רפואי הלל יפה

הנדון: אישור לביצוע מחקר רפואי

בהתאם לבקשתך, ניתן בזה אישור לביצוע המחקר לפי המסמכים הבאים:

פרטי הניסוי

מספר בקשה בוועדה מוסדית: HYMC-0090-23
נושא המחקר: תפקיד החוסן, גורמים אישיים וגורמים ארגוניים בחיזוי מוכנות האחיות לאסונות
שם היזם: מר עומר ותד

מסמכי הניסוי

תאריך	גרסה	מסמכי הניסוי
16 / אוגוסט / 2023	1.0	פרוטוקול הניסוי- שם/מספר: 0090-23-HYMC
		טופס הסכמה- שם/מספר:

האישור ניתן בתנאים או במגבלות הבאות:
הניסוי מאושר ל- 300 משתתפים בלבד

בתוקף ההסמכה שקיבלתי מהמנהל הכללי של משרד הבריאות, לתת אישור כ"מנהל" לעשיית ניסוי רפואי בבני-אדם, ולאחר שהבקשה אושרה על-ידי תת ועדת הליסינקי המוסדית מיום 16 / אוגוסט / 2023 שוכנעתי כי המחקר הרפואי הנו בהתאם לעקרונות של הצהרת הליסינקי ותקנות בריאות העם (ניסויים רפואיים בבני-אדם) תשמ"א-1980, וכי חוזה ההתקשרות בין היזם, החוקר הראשי והמוסד הרפואי עומד בדרישות הנהל לניסויים רפואיים בבני אדם, הנני מאשר את ביצוע המחקר בכפוף לתנאים הבאים:

Matarot Helsinki

0090-23-HYMC

עמוד 1 מתוך 2

16-Aug-23

הפק ל"גב קין ארטיסרין



המרכז הרפואי
הלל יפה
Hillel Yaffe

מרכז רפואי הלל יפה ממונה לפיקוח על ביצוע המחקר. לפרטים נוספים על המחקר, חייב/ת לסייע לרפואי - מוסד רפואי
<http://hyhc.org.il>
 מרכז רפואי הלל יפה ממונה לפיקוח על ביצוע המחקר. לפרטים נוספים על המחקר, חייב/ת לסייע לרפואי - מוסד רפואי

הנהל ליניסויים רפואיים בבני אדם 2020
טופס 17
אישור המנהל לביצוע המחקר הרפואי

תנאי האישור

- 1) המחקר הרפואי יבוצע בכפוף להצהרת החוקר הראשי ו/או הרופא האחראי (טופס 1).
- 2) כל שינוי, תוספת או חריגה מפרוטוקול המחקר הרפואי, טעון אישור בכתב של ועדת הליסינקי של המוסד הרפואי.
- 3) הארכת תוקף האישור: החוקר הראשי יעביר לוועדה המוסדית דו"ח התקדמות על מהלך הניסוי לוועדת הליסינקי של המוסד הרפואי לפני שפג תוקף האישור. הוועדה תודיע על החלטתה לגבי המשך הניסוי למנהל המוסד הרפואי.
- 4) בתום המחקר יגיש החוקר הראשי, לוועדת הליסינקי דו"ח מסכם על מהלך הניסוי ותוצאותיו.
- 5) האישור ניתן לחוקר הראשי ולמוסד הרפואי המצוינים לעיל ואינו ניתן להעברה לאחר.
- 6) שמירת מסמכים: יש לשמור את כל מסמכי הבקשה, האישורים וכל המסמכים הנאספים במהלך הניסוי הרפואי לפחות 7 שנים מתום הניסוי.
- 7) תוקף האישור: 15 / אוגוסט / 2024

בהצלחה !

בכבוד רב,

 ד"ר מיקי דודקביץ
 מנהלת המרכז הרפואי

MICKEY DUDKIEWICZ, M.D., M.H.A.
 Director
 Medical Research
 Development Fund and Health Services
 P. N. 58-030-743-7
 HILLEL YAFFE MEDICAL CENTER
 Hadera, Israel

Matarot Helinski

0090-23-HYMC

עוד 2 סוף 2

16-Aug-23

ד"ר ליליב קין אברמוביץ



ד"ר ליליב קין אברמוביץ | מנהלת המרכז הרפואי הכלל יפה | תל אביב | טל: 03-52777100 | פקס: 03-52777100 | דואר: lilyab@harel.gov.il
 המרכז הרפואי הכלל יפה ממשיך לפעול / ע"ש רפפורט המוסדות חיים / מדינת ישראל - סניף גבריאם

Appendix C

Questionnaire

Dear Nurse Colleague,

You are invited to participate in a research study that explores Israeli nurses' disaster preparedness and we would appreciate your help.

Your participation in this study is anonymous. Your participation is voluntary. At any time, you are free to decide not to participate by not completing or not submitting your responses. Completion of the questionnaire will serve as an indication of your consent.

We recognize that your time is important and appreciate your willingness to participate and share your perceptions with us.

SIGN: _____ DATE: _____

Appendix D**1.Socio-demographical and professional data**

1. **Gender:** 1.Female 2.Male
2. **Age:** _____
3. **Marital status:** 1. Single 2. Married 3. Divorced 4. Widow/er
4. **Number of children:** _____
5. **Religion:** 1. Jewish 2. Muslim 3. Christian 4. Druze 5. Other

6. Level of religious observance:

1. Secular 2. Traditional 3. Religious 4. Ultra-Orthodox

7. Ward:

- 1.Medical ward
- 2.Surgical ward
- 3.Intensive care
- 4.Obstetrics and gynecology
- 5.Emergency
- 6.Other_____

8. Position:

- 1.Staff nurse
- 2.Managerial position

9. Clinical experience as a nurse: _____**10. Have you completed an advanced nursing course?**

- 1.Yes
- 2.No

11. Clinical experience as a nurse in the present ward: _____

12. Disaster medicine as part of Bachelor's degree:

1.Yes

2.No

13. Do you have prior experience in managing a disaster:

1.Yes

2.No

14. Have you undergone disaster training at place of work:

1.Yes

2.No

15. How many disaster training days have you received during the past year?

2. Disaster Preparedness Evaluation Tool (DPET)

Disaster preparedness

1.	I would be interested in educational classes on disaster preparedness that relate specifically to my community situation.	1	2	3	4	5	6
2.	I am aware of classes on disaster preparedness and management that are available, for example, at my workplace, at the university, or in the community.	1	2	3	4	5	6
3.	I find that published works of research on disaster preparedness are comprehensible.	1	2	3	4	5	6
4.	I know the limits of my knowledge, skills, and authority as a nurse to act in disaster situations, and I would know when I exceed them.	1	2	3	4	5	6
5.	Finding relevant information about disaster preparedness related to my community needs is an obstacle to my level of preparedness.	1	2	3	4	5	6
6.	I am aware of the potential vulnerabilities in my community (e.g., earthquake, floods, terror).	1	2	3	4	5	6
7.	In the case of a disaster situation, I think that there is sufficient support from local officials or on the national level.	1	2	3	4	5	6
8.	I know where to find relevant research or information on disaster preparedness and management to fill in gaps in my	1	2	3	4	5	6

	knowledge.						
9.	I have a list of contacts in the medical or health community in which I practice who have referral contacts in case of a disaster situation (e.g., health department).	1	2	3	4	5	6
10.	I find that the published works of research on disaster preparedness and management are easily accessible.	1	2	3	4	5	6
11.	I participate in one of the following educational activities on a regular basis: continuing education classes, seminars, or conferences dealing with disaster preparedness.	1	2	3	4	5	6
12.	I am familiar with the local emergency response system for disasters.	1	2	3	4	5	6
13.	I know who to contact (chain of command) in disaster situations in my community.	1	2	3	4	5	6
14.	I read journal articles on disaster preparedness.	1	2	3	4	5	6
15.	I participate/have participated in creating new guidelines, emergency plans, or lobbying for improvements on the local or national level.	1	2	3	4	5	6
16.	I have participated in emergency plan drafting and emergency planning for disaster situations in my community.	1	2	3	4	5	6
17.	I am familiar with accepted triage principles used in disaster situations.	1	2	3	4	5	6
18.	I participate in disaster drills or exercises at my workplace	1	2	3	4	5	6

	(e.g., clinic, hospital) on a regular basis.						
19.	I consider myself well prepared for managing disasters.	1	2	3	4	5	6
20.	In the case of a bioterrorism attack, I know how to use personal protective equipment.	1	2	3	4	5	6
21.	I would be considered a key leadership figure in my community in a disaster situation.	1	2	3	4	5	6
22.	In the case of bioterrorism, I know how to perform isolation procedures to minimize the risk of community exposure.	1	2	3	4	5	6
23.	In the case of bioterrorism, I know how to execute decontamination procedures.	1	2	3	4	5	6
24.	I have personal/family emergency plans in place for disaster situations.	1	2	3	4	5	6
25.	I have an agreement with loved ones and family members on how to execute our personal/family emergency plans.	1	2	3	4	5	6

Response

26.	I am able to describe my role in the response phase of a disaster in the context of my workplace, the general public, the media, and personal contacts.	1	2	3	4	5	6
27.	I am familiar with the organizational logistics and roles among local and national agencies in disaster response situations.	1	2	3	4	5	6
28.	I am familiar with psychological interventions, behavioral therapy, cognitive strategies, support groups, and incident	1	2	3	4	5	6

	debriefing for patients who experience emotional or physical trauma.						
29.	I can manage the common symptoms and reactions of disaster survivors that are of an affective, behavioral, cognitive, and physical nature.	1	2	3	4	5	6
30.	I would feel confident providing patient education on stress and abnormal functioning related to trauma.	1	2	3	4	5	6
31.	I can identify possible indicators of mass exposure evidenced by a clustering of patients with similar symptoms.	1	2	3	4	5	6
32.	As a nurse, I would feel confident as a manager or coordinator of a shelter.	1	2	3	4	5	6
33.	I feel reasonably confident that I can treat patients independently without supervision by a physician in a disaster situation.	1	2	3	4	5	6
34.	I would feel confident working as a triage nurse practitioner and setting up temporary clinics in disaster situations.	1	2	3	4	5	6
35.	As a nurse, I would feel confident in my abilities as a direct care provider and first responder in disaster situations.	1	2	3	4	5	6
36.	I would feel confident implementing emergency plans, evacuation procedures, and similar functions.	1	2	3	4	5	6
37.	As a nurse, I would feel reasonably confident in my abilities to be a member of a decontamination team.	1	2	3	4	5	6
38.	I am familiar with biological weapons (e.g., anthrax, plague,	1	2	3	4	5	6

	botulism, smallpox), their signs and symptoms, and effective treatments.						
39.	I feel confident discerning irregularities in health assessments indicating potential exposure to biological agents.	1	2	3	4	5	6
40.	In the case of bioterrorism, I know how to take a focused health history and assessment, specific to the bio-agents used.	1	2	3	4	5	6

Evaluation

41.	I am familiar with the possible scope of my role as a nurse in a post-disaster situation.	1	2	3	4	5	6
42.	I am able to discern the signs and symptoms of acute stress disorder and post-traumatic stress disorder (PTSD).	1	2	3	4	5	6
43.	I participate in peer evaluation of skills on disaster preparedness and response.	1	2	3	4	5	6
44.	I would feel confident providing education on coping skills and training to patients who experience traumatic situations so they will be able to manage themselves.	1	2	3	4	5	6
45.	I am familiar with how to perform a focused health assessment for PTSD.	1	2	3	4	5	6
46.	I feel confident managing (treating, evaluating) emotional outcomes of acute stress disorder or PTSD following disaster or trauma in a multidisciplinary way such as referrals and follow-ups, and I know what to expect in the following months.	1	2	3	4	5	6

3. Psychological Preparedness for Disaster Threat Scale (PPDTS)

Psychological disaster preparedness

How true are the following statements for you? Please circle: 1 = not at all true of me, to 4 = exactly true of me.

47.	I am familiar with the natural hazard/disaster preparedness materials relevant to my area.	1	2	3	4
48.	I know which household preparedness measures are needed to stay safe in a natural hazard/disaster.	1	2	3	4
49.	I know how to adequately prepare my home for the forthcoming fire/flood/cyclone season.	1	2	3	4
50.	I know what to look out for in my home and workplace if an emergency weather situation should develop.	1	2	3	4
51.	I am familiar with the disaster warning system messages used for extreme weather events.	1	2	3	4
52.	I am confident that I know what to do and what actions to take in a severe weather situation.	1	2	3	4
53.	I would be able to easily locate the natural hazard/disaster preparedness materials in a warning situation.	1	2	3	4
54.	I am knowledgeable about the impact that a natural hazard/disaster can have on my home.	1	2	3	4
55.	I know the difference between a disaster warning and a disaster watch situation.	1	2	3	4
56.	I am familiar with the weather signs of an approaching fire/flood/cyclone.	1	2	3	4
57.	I think that I am able to manage my feelings pretty well in	1	2	3	4

	difficult and challenging situations.				
58.	In a natural hazard/disaster situation I would be able to cope with my anxiety and fear.	1	2	3	4
59.	I seem to be able to stay cool and calm in most difficult situations.	1	2	3	4
60.	I feel reasonably confident in my own ability to deal with stressful situations in which I might find myself.	1	2	3	4
61.	When necessary, I can talk myself through challenging situations.	1	2	3	4
62.	If I found myself in a natural hazard/disaster situation I would know how to manage my own response to the situation.	1	2	3	4
63.	I know which strategies I could use to calm myself in a natural hazard/disaster situation.	1	2	3	4
64.	I have a good idea of how I would likely respond in an emergency situation.	1	2	3	4

5. Connor-Davidson Resilience Scale (CDRS-25)

Resilience

How true are the following statements for you? Please circle: 1 = not true at all, to 4 = true nearly all the time.

65.	Able to adapt to change	0	1	2	3	4
66.	Have close and secure relationships	0	1	2	3	4
67.	Sometimes fate or God can help	0	1	2	3	4
68.	Can deal with whatever comes	0	1	2	3	4

69.	Past success grants confidence for new challenges	0	1	2	3	4
70.	See the humorous side of things	0	1	2	3	4
71.	Coping with stress strengthens	0	1	2	3	4
72.	Tend to bounce back after illness or hardship	0	1	2	3	4
73.	Things happen for a reason	0	1	2	3	4
74.	Make the best effort no matter what	0	1	2	3	4
75.	Can achieve my goals	0	1	2	3	4
76.	When things look hopeless, I don't give up	0	1	2	3	4
77.	Know where to turn for help	0	1	2	3	4
78.	Under pressure, focus and think clearly	0	1	2	3	4
79.	Prefer to take the lead in problem solving	0	1	2	3	4
80.	Not easily discouraged by failure	0	1	2	3	4
81.	Think of myself as a strong person	0	1	2	3	4
82.	Make unpopular or difficult decisions	0	1	2	3	4
83.	Can handle unpleasant feelings	0	1	2	3	4
84.	Feel that I have to act on a hunch	0	1	2	3	4
85.	Strong sense of purpose	0	1	2	3	4
86.	In control of my life	0	1	2	3	4
87.	I like challenges	0	1	2	3	4
88.	Work to attain my goals	0	1	2	3	4
89.	Pride in my achievements	0	1	2	3	4

5.Trait-Anxiety Inventory

Circle the appropriate number to indicate how you generally feel: 1 = almost never, to 4 = almost always.

90.	I feel pleasant	1	2	3	4
91.	I feel nervous and restless	1	2	3	4
92.	I feel satisfied with myself	1	2	3	4
93.	I wish I could be happy as others seem to be	1	2	3	4
94.	I feel like a failure	1	2	3	4
95.	I feel rested	1	2	3	4
96.	I am calm, cool, and collected	1	2	3	4
97.	I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
98.	I worry too much over things that don't really matter	1	2	3	4
99.	I am happy	1	2	3	4
100.	I have disturbing thoughts	1	2	3	4
101.	I lack self-confidence	1	2	3	4
102.	I feel confident	1	2	3	4
103.	I make decisions easily	1	2	3	4
104.	I feel inadequate	1	2	3	4
105.	I am content	1	2	3	4
106.	Some unimportant thoughts run through my mind and bother me	1	2	3	4
107.	I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
108.	I am a steady person	1	2	3	4
109.	I enter a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

6.Life Orientation Test-Revised (LOT-R)**Dispositional optimism**

Please circle the number that describes how much you agree with the statement:

1 = strongly disagree, to 4 = strongly agree.

110.	In uncertain times, I usually expect the best.	1	2	3	4
111.	It's easy for me to relax.	1	2	3	4
112.	If something can go wrong for me, it will.	1	2	3	4
113.	I'm always optimistic about my future.	1	2	3	4
114.	I enjoy my friends a lot.	1	2	3	4
115.	It's important for me to keep busy.	1	2	3	4
116.	I hardly ever expect things to go my way.	1	2	3	4
117.	I don't get upset too easily.	1	2	3	4
118.	I rarely count on good things happening to me.	1	2	3	4
119.	Overall, I expect more good things to happen to me than bad.	1	2	3	4

7.Practice Environment Scale of The Nursing Work Index (PES-NWI)**Organizational factors**

Please circle the number that describes how much you agree with the statement

(Refer to your current job): 1 = strongly disagree, to 4 = strongly agree.

Nurse participation in hospital affairs

120.	Presence of career development/clinical ladder opportunity.	1	2	3	4
121.	Opportunity for staff nurses to participate in policy decisions.	1	2	3	4
122.	A chief nursing officer who is highly visible and accessible to staff.	1	2	3	4
123.	A chief nursing officer equal in power and authority to other top-	1	2	3	4

	level hospital executives.				
124.	Opportunities for advancement.	1	2	3	4
125.	Administration that listens and responds to employee concerns.	1	2	3	4
126.	Staff nurses are involved in the internal governance of the hospital (e.g., practice and policy committees).	1	2	3	4
127.	Staff nurses have the opportunity to serve on hospital and nursing committees.	1	2	3	4
128.	Nursing administrators consult with staff on daily problems and procedures.	1	2	3	4

Nursing foundations for quality of care

129.	Active staff development or continuing education programs for nurses.	1	2	3	4
130.	High standards of nursing care are expected by the administration.	1	2	3	4
131.	A clear philosophy of nursing that pervades the patient care environment.	1	2	3	4
132.	Working with nurses who are clinically competent.	1	2	3	4
133.	An active quality assurance program.	1	2	3	4
134.	A preceptor program for newly hired RNs.	1	2	3	4
135.	Nursing care is based on a nursing, rather than a medical, model.	1	2	3	4
136.	Written, up-to-date nursing care plans for all patients.	1	2	3	4
137.	Patient care assignments that foster continuity of care, i.e., the same nurse cares for the patient from one day to the next.	1	2	3	4
138.	Use of nursing diagnoses.	1	2	3	4

Leadership and support for nurses

139.	A supervisory staff that is supportive of the nurses.	1	2	3	4
140.	Supervisors use mistakes as learning opportunities, not criticism.	1	2	3	4
141.	A nurse manager who is a good manager and leader.	1	2	3	4
142.	Praise and recognition for a job well done.	1	2	3	4
143.	A nurse manager who backs up the nursing staff in decision-making, even if the conflict is with a physician.	1	2	3	4

Staffing resources adequacy

144.	Adequate support services allow me to spend time with my patients.	1	2	3	4
145.	Enough time and opportunity to discuss patient care problems with other nurses.	1	2	3	4
146.	Enough registered nurses to provide quality patient care.	1	2	3	4
147.	Enough staff to get the work done.	1	2	3	4

Collegial nurse-physician relationship

148.	Physicians and nurses have good working relationships.	1	2	3	4
149.	A lot of teamwork between nurses and physicians.	1	2	3	4
150.	Collaboration (joint practice) between nurses and physicians.	1	2	3	4

Nurse-Nurse Interaction subscale of the Job Satisfaction Scale-R

Please circle the number that describes how much you agree with the statement:

1 = strongly disagree, to 4 = strongly agree.

151.	RNs I work with count on each other to pitch in and help when things get busy	1	2	3	4
152.	There is a good deal of teamwork among RNs I work with	1	2	3	4
153.	RNs I work with support each other	1	2	3	4

Thank you for participating!

Appendix E

נתונים סוציו-דמוגרפיים ומקצועיים

מגדר : 1. זכר 2. נקבה

גיל _____

מצב משפחתי: 1. רווק 2. נשוי 3. גרוש 4. אלמן

מספר ילדים: _____

דת: 1. יהודי 2. מוסלם 3. נוצרי 4. דורזי 5. אחר

רמת דתיות: 1. חילוני 2. מסורתי 3. דתי 4. חרדי

מחלקה בה הינך עובד ?

1. מחלקה פנימית

2. מחלקה כירורגית

3. טיפול נמרץ

4. מיילדות וגניקולוגיה

5. חדר מיון

6. אחר _____

תפקיד: 1. אחות מהשורה 2. תפקיד ניהולי

ניסיון קליני כאח/ות: _____

האם הנך בוגרת קורס על בסיסי : 0. לא 1. כן

ותק במחלקה _____

האם למדת רפואת אסונות במסגרת התואר הראשון? 0. לא 1. כן

האם התנסת בטיפול בעת אירוע אסון בבית חולים? 0. לא 1. כן

האם עברת אימון בנושא התמודדות בעת אסון בעבודה? 0. לא 1. כן

באם ענית כן כמה פעמים במהלך השנה: _____

לפניך מספר שאלות הדנות בנושא מוכנות אינסטרמנטלית נא דרג את עמדתך בנושא בין 1

לא מסכים כלל ל- 4 מסכים בהחלט

מסכים בהחלט	מסכים	מעט מסכים	מעט לא מסכים	לא מסכים	לא מסכים כלל		
6	5	4	3	2	1	1.	אני הייתי מעוניין לקבל הרצאות בנושא מוכנות לאירוע אסון הקשור באופן ספציפי למצב הקהילה שלי
6	5	4	3	2	1	2.	אני מודע להרצאות על מוכנות וניהול אסונות וזמינותם למשלי, במקום העבודה שלי, באוניברסיטה או בקהילה.
6	5	4	3	2	1	3.	לדעתי הפרסומים המחקריים על מוכנות לאסון מובנים
6	5	4	3	2	1	4.	אני מודע למגבלות הידע שלי, הכישורים והסמכות שלי כאח לפעול במצבי אסון, ואני אדע מתי חציתי את גבולות המקצוע.
6	5	4	3	2	1	5.	אין לי יכולת לאיתור מידע על מוכנות לאסון שקשור לקהילה שלי
6	5	4	3	2	1	6.	אני מודע לפגיעות האפשריות בקהילה שלי (כגון: רעידת אדמה, שיטפונות ואירועי טרור)

מסכים בהחלט	מסכים	מעט מסכים	מעט לא מסכים	לא מסכים	לא מסכים כלל		
6	5	4	3	2	1	במצב של אסון, אני מאמין שיש לי מספיק תמיכה מטעם הרשויות המקומיות או במישור הלאומי.	.7
6	5	4	3	2	1	אני יודע איפה למצוא מחקר או מידע רלוונטי על כוננות וניהול אסון כדי לצמצם פערי ידע.	.8
6	5	4	3	2	1	יש לי רשימת אנשי קשר מהקהילה הרפואית והבריאותית המקושרים עם גורמים מתאימים במצב של אסון (כגון: משרד הבריאות).	.9
6	5	4	3	2	1	עבודות מחקר שהתפרסמו על מוכנות לניהול אסון הינם נגישים לי	.10
6	5	4	3	2	1	אני משתתף באחד מהפעילויות החינוכיות הבאות באופן סדיר : לימודי המשך , סמינרים או כנסים על מוכנות לאסון.	.11
6	5	4	3	2	1	אני מכיר את מערכת התגובה לאירועי חירום ואסונות המקומית	.12
6	5	4	3	2	1	אני יודע אל מי לפנות במצבי אסון בקהילה שלי.	.13
6	5	4	3	2	1	אני קורא מאמרים על מוכנות לאסון	.14
6	5	4	3	2	1	אני משתתף ביצירת הוראות חדשות, תוכניות חירום או מדיניות לשיפור ברמה המקומית או הלאומית.	.15
6	5	4	3	2	1	השתתפתי בניסוח תוכניות חירום, ותיכון חירום למצבי אסון בקהילה שלי.	.16
6	5	4	3	2	1	אני מכיר את עקרונות הטריאז' המקובלים בעת מצבי	.17

6	5	4	3	2	1	אני מסוגל לתאר את תפקידי בשלב התגובה של אסון בהקשר של מקום העבודה שלי, הציבור הרחב, התקשורת והקשרים האישיים	.26
6	5	4	3	2	1	אני מכיר את הלוגיסטיקה הארגונית והתפקידים של גופים הממונים על טיפול במצבי אסון מקומיים וארציים	.27
6	5	4	3	2	1	אני מכיר התערבויות פסיכולוגיות, טיפול התנהגותי, אסטרטגיות קוגניטיביות, קבוצות תמיכה ותחקיר אירועים למטופלים שחווים טראומה רגשית או פיזית	.28
6	5	4	3	2	1	אני יכול לנהל את התסמינים והתגובות השכיחות של ניצולי אסון שהם בעלי אופי רגשי, התנהגותי, קוגניטיבי ופיזי	.29
6	5	4	3	2	1	אני מרגיש בטוח להדריך מטופלים לגבי לחץ ותפקוד לקוי הקשור לטראומה.	.30
6	5	4	3	2	1	אני מסוגל לזהות סימנים של חשיפה לאסון לאומי	.31
6	5	4	3	2	1	כאח אני מרגיש בטוח לנהל מקלט חירום בעת אסון	.32
6	5	4	3	2	1	אני מרגיש מספיק בטוח שאוכל לטפל בחולים באופן עצמאי בלי השגחת רופא במצב של אסון.	.33
6	5	4	3	2	1	אני ארגיש בטוח לעבוד כאח טריאז' ואקים מרפאות זמניות במצב אסון	.34
6	5	4	3	2	1	כאח אני מרגיש בטוח ביכולותי כמטפל במצבי אסון	.35
6	5	4	3	2	1	אני מרגיש בטוח ליישם תוכניות חירום, הליכי פינוי ותפקידים דומים בעת אסון.	.36
6	5	4	3	2	1	כאח אני מרגיש בטוח ביכולות שלי להיות חבר בצוות הטיהור.	.37

6	5	4	3	2	1	אני מכיר את הנשק הביולוגי (למשל, אנתרקס, דבר, בוטוליזם, אבעבועות שחורות), הסימנים והתסמינים שלהם וטיפולים יעילים.	38
6	5	4	3	2	1	אני מרגיש בטוח להבחין בסימנים המצביעים על חשיפה אפשרית לגורמים ביולוגיים	39
6	5	4	3	2	1	במקרה של פיגוע ביולוגי, אני יודע איך לבצע אנמנזה ואומדן הספציפיים לגורמים הביולוגיים המעורבים.	40

הערכה

מסכים בהחלט	מסכים	מעט מסכים	מעט לא מסכים	לא מסכים	לא מסכים כלל		
6	5	4	3	2	1	אני מכיר את גבולות התפקיד שלי כאח במצבים אחרי אסון	41
6	5	4	3	2	1	אני יכול להבחין בסימנים והתסמינים של מצבי דחק אקוטיים ושל מצבי דחק פוסט-טראומטית (PTSD).	42
6	5	4	3	2	1	אני משתתף בהערכת עמיתים למיומנויות של כוננות ותגובה לאסון	43
6	5	4	3	2	1	אני מרגיש ביטחון להדריך מטופלים שחווים מצבים טראומטיים בעת אסון לגבי מיומנויות התמודדות כדי שיוכלו להסתדר באופן עצמאי.	44
6	5	4	3	2	1	אני יודע איך לבצע הערכה בריאותית ממוקדת למצבי דחק פוסט-טראומטיים	45

6	5	4	3	2	1	<p>אני מרגיש ביטחון בניהולי הערכה, טיפול בתוצאות רגשיות של מצבי דחק אקוטי או דחק פוסט-טראומטיים של צוות רב מקצועי כגון: מעקבים והפניות .</p>	46
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מוכנות פסיכולוגית לאסון

עד כמה המשפטים הבאים נכונים עבורך אנא סמן: 1= לא נכון כלל , עד 4= נכון מאוד

נכון מאד	נכון	לא נכון	לא נכון כלל		
4	3	2	1	אני מכיר את חומרי העזר לכוננות לאסון טבעי או כל סכנה אחרת הרלוונטיים לתחום שלי.	.47
4	3	2	1	אני יודע איזה מדדי כוננות ביתית דרושים לשמירה על ביטחון במצבי אסון וסכנה.	.48
4	3	2	1	אני יודע איך להכין את הבית שלי לשיטפון, שריפות, רוחות חזקים (ציקלונים) .	.49
4	3	2	1	אני יודע מה לחפש בבית או במקום העבודה במקרה של חירום במזג אוויר	.50
4	3	2	1	אני מכיר את ההודעות של מערכת ההתראה לאסון במצבי מזג אוויר קיצוניים.	.51
4	3	2	1	אני בטוח שאני יודע מה לעשות ובאיזה הליכים לנקוט במצבי מזג אוויר קיצוניים.	.52
4	3	2	1	אני יכול לאתר בקלות את חומרי הכוננות לאסון טבעי או כל סכנה אחרת במצבי חירום.	.53
4	3	2	1	אני מודע להשפעת אסון טבעי או כל סכנה אחרת על הבית שלי.	.54

4	3	2	1	אני יודע להבדיל בין התראת אסון להתראת למצב כוננות .	.55
4	3	2	1	אני מכיר את סימני מזג אויר של שריפה/ שיטפון/ רוחות חזקים (ציקלונים)	.56
4	3	2	1	אני מאמין שיש לי יכולת לשלוט ברגשות שלי באופן מספיק טוב במצבים קשים ומאתגרים.	.57
4	3	2	1	במצבי סכנה/ אסון אני יכול להתמודד עם החרדות והחששות שלי	.58
4	3	2	1	אני יכול לשמור על קור רוח ברוב המצבים הקשים	.59
4	3	2	1	אני מרגיש בטוח מספיק ביכולת שלי להתמודד במצבי לחץ שאני עלול להיות בהם.	.60
4	3	2	1	אני יכול לעבוד מצבים מאתגרים כשנדרש .	.61
4	3	2	1	אני אדע איך לנהל את תגובתי במצבים של סכנה/ אסון טבעי	.62
4	3	2	1	אני יודע באיזו אסטרטגיות להשתמש על מנת להרגיע את עצמי במצבי סכנה/אסון	.63
4	3	2	1	אני יודע איך אני אגיב במצבי חירום.	.64

חוסן

אנא סמן בבקשה עד כמה ההצהרות הבאות נכונות עבורך? הקף בעיגול : 1= בכלל לא נכון,

עד 4= נכון מא

4	3	2	1	0	
נכון מאד	נכון	לא נכון ברמה בינונית	לא נכון	בכלל לא נכון	
4	3	2	1	0	.65 מסוגל להסתגל לשינויים
4	3	2	1	0	.66 יש לי מערכת יחסים קרובה ובטוחה
4	3	2	1	0	.67 לעיתים אמונה ואלוהים יכולים לעזור
4	3	2	1	0	.68 יכול להתמודד עם כל בעיה

4	3	2	1	0	הצלחות העבר מעניקות ביטחון לאתגרים חדשים	.69
4	3	2	1	0	רואה את הצד המצחיק בדברים	.70
4	3	2	1	0	התמודדות עם קשיים מחזקת	.71
4	3	2	1	0	נוטה להתאושש אחרי מחלה או קשיים	.72
4	3	2	1	0	דברים קורים מסיבה כלשהיא	.73
4	3	2	1	0	עשה את המאמץ הטוב ביותר, לא משנה מה	.74
4	3	2	1	0	יכול להשיג את מטרותיי	.75
4	3	2	1	0	אני לא מרים ידיים כאשר הדברים נראים חסרי תקווה	.76
4	3	2	1	0	יודע למי לפנות לבקשת עזרה	.77
4	3	2	1	0	יודע להתרכז ולחשוב בבירור תחת לחץ	.78
4	3	2	1	0	מעדיף להוביל בפתרון בעיות	.79
4	3	2	1	0	לא מתייאש בקלות מכישלון	.80
4	3	2	1	0	מחשיב את עצמי כאיש חזק	.81
4	3	2	1	0	מקבל החלטות קשות	.82
4	3	2	1	0	יכול להתמודד עם רגשות לא נעימים	.83
4	3	2	1	0	מרגיש שצריך להתנהג לפי תחושה	.84
4	3	2	1	0	יש לי תחושת מטרה חזקה	.85
4	3	2	1	0	בשליטה על החיים שלי	.86
4	3	2	1	0	אני אוהב אתגרים	.87
4	3	2	1	0	עובד להשיג את המטרות שלי	.88
4	3	2	1	0	גאה בהישגים שלי	.89

תכונות של חרדה

הקף בעיגול את המספר המתאים לציין איך אתה מרגיש באופן כללי: 1 = אף פעם עד 4 =

תמיד

תמיד	לפעמים	נדיר	אף פעם		
4	3	2	1		
4	3	2	1	אני מרגיש מרוצה	.90
4	3	2	1	אני מרגיש עצבני וחסר מנוחה	.91
4	3	2	1	אני מרוצה מעצמי	.92
4	3	2	1	הלוואי שהייתי מאושר כמו שאחרים נראים	.93
4	3	2	1	אני מרגיש שכשלתי	.94
4	3	2	1	אני מרגיש נח	.95
4	3	2	1	אני רגוע ושקול	.96
4	3	2	1	אני מרגיש שהקשיים נערמים עליי כך שאני לא יכול להתגבר עליהם	.97
4	3	2	1	אני דואג מדי לדברים שלא כל כך חשובים	.98
4	3	2	1	אני שמח	.99
4	3	2	1	יש לי מחשבות מטרידות	.100
4	3	2	1	חסר לי בטחון עצמי	.101
4	3	2	1	אני מרגיש בטוח בעצמי	.102
4	3	2	1	אני מקבל החלטות בקלות	.103
4	3	2	1	אני מרגיש שאין לי מספיק בטחון עצמי	.104
4	3	2	1	אני שבע רצון	.105
4	3	2	1	אני חושב על דברים לא חשובים שמטרידים אותי	.106
4	3	2	1	אני לוקח אכזבות כל כך בחריפות שאני לא יכול להוציא אותם מהראש שלי	.107
4	3	2	1	אני אדם יציב	.108
4	3	2	1	אני מקבל אכזבות כל כך קשה שאני לא יכול להוציא אותן ממחשבותיי	.109

אופטימיות רגשית

בכל משפט, אנא סמן את המספר המתאר עד כמה אתה מסכים עם הנאמר בו:

1 = לא מסכים לחלוטין, 4 = מסכים מאוד.

מסכים מאד	מסכים	מלא מסכים	לא מסכים כלל		
4	3	2	1		
4	3	2	1	בתקופות של אי וודאותי אני בדרך כלל מצפה לטוב ביותר.	.110
4	3	2	1	קל לי להירגע.	.111
4	3	2	1	אם משהו לא הולך לי טוב, זה יקרה.	.112
4	3	2	1	אני תמיד אופטימי לגבי העתיד שלי.	.113
4	3	2	1	אני נהנה מאוד מהחברים שלי.	.114
4	3	2	1	חשוב לי להיות עסוק.	.115
4	3	2	1	אני כמעט אף פעם לא מצפה שדברים יתנהלו בדרך שלי	.116
4	3	2	1	אני לא מתרגז בקלות	.117
4	3	2	1	לעתים רחוקות אני סומך שדברים טובים יקרו לי.	.118
4	3	2	1	בכללי, אני מצפה לדברים טובים יותר מאשר רעים.	.119

גורמים ארגוניים

בכל משפט, אנא סמן את המספר המתאר עד כמה אתה מסכים עם הנאמר בו:

(התייחס לעבודה הנוכחית שלך): 1 = מאוד לא מסכים, 4 = מסכים מאוד.

מסכים מאד	מסכים	מלא מסכים	לא מסכים כלל		
4	3	2	1		
4	3	2	1	אפשרות לפיתוח קריירה לסולם קריירה קליני.	.120

4	3	2	1	הזדמנות לאחיות מן השורה להשתתף בקבלת החלטות מדיניות .	.121
4	3	2	1	האחות הראשית: הינה נגישה .	.122
4	3	2	1	יש לאחות הראשית אותה סמכות וכוח של מנהלים בכירים בבית החולים .	.123
4	3	2	1	הזדמנויות להתקדמות.	.124
4	3	2	1	המנהל שלי מקשיב ומגיב לחששות העובדים .	.125
4	3	2	1	אחים ואחיות הצוות מעורבים בפיקוח הפנימי של בית החולים (למשל, ועדות מדיניות)	.126
4	3	2	1	לאחים ואחיות יש הזדמנות לפעול בוועדות הסיעוד בבית החולים .	.127
4	3	2	1	אחות אחראיות מתייעצות עם הצוות לגבי בעיות ונהלים יומיים.	.128
4	3	2	1	קיימות תוכניות לחינוך תוך שירות	.129
4	3	2	1	הנהלה מצפה לסטנדרטים גבוהים של טיפול סיעודי	.130
4	3	2	1	קיימת תפיסת עולם סיעודית ברורה לגבי הטיפול במטופל	.131
4	3	2	1	אני עובד עם אחים ואחיות בעלי יכולות קליניות טובות	.132
4	3	2	1	קיימת תוכנית אבטחת איכות	.133
4	3	2	1	יש תוכנית קליטה לאחות חדשה	.134
4	3	2	1	הטיפול הסיעודי מבוסס על מודל סיעודי מאשר על מודל רפואי .	.135
4	3	2	1	קיימות תוכניות סיעוד עדכניות ומעודכנות לכל המטופלים.	.136

4	3	2	1	קיימות מטלות טיפול המעודדות המשכיות טיפול בחולה , כלומר, אותו אח מטפל בחולה מיום אחד למשנהו .	.137
4	3	2	1	קיים שימוש באבחנות סיעודיות	.138
4	3	2	1	אחיות מפקחות תומכות באחים ואחיות .	.139
4	3	2	1	אחיות המפקחות משתמש בטעויות כהזדמנויות למידה, לא כביקורת .	.140
4	3	2	1	אחות אחראית שלי היא מנהלת טובה ומנהיגה	.141
4	3	2	1	בבית חולים שלי יש הוקרה והערכה על עבודה שנעשתה היטב.	.142
4	3	2	1	אחות אחראית שלי מגבה את הצוות הסיעוד בקבלת החלטות, גם אם הסכסוך הוא עם רופא .	.143
4	3	2	1	התמיכה של כל אנשי הצוות במחלקה מאפשרים לי להתפנות לטיפול במטופלים שלי .	.144
4	3	2	1	יש מספיק זמן והזדמנות לדון בבעיות טיפול בחולה עם אחים ואחיות אחרים.	.145
4	3	2	1	יש מספיק אחים ואחיות מוסמכים כדי לספק טיפול איכותי בחולה.	.146
4	3	2	1	יש מספיק עובדים כדי לבצע את העבודה .	.147
4	3	2	1	לרופאים ולאחים יש יחסי עבודה טובים .	.148
4	3	2	1	קיימת עבודת צוות של האחים והרופאים .	.149
4	3	2	1	יש שיתוף פעולה (פרקטיקה משותפת) בין האחים והרופאים ..	.150

אנא הקף בעיגול את המספר המתאר עד כמה אתה מסכים עם הנאמר בו: 1 = לא מסכים

כללי, ל- 4 = מסכים מאוד.

מסכים מאד 4	מסכים 3	מלא מסכים 2	לא מסכים כלל 1		
4	3	2	1	אחיות עובדות בשיתוף פעולה מלא המאפשר תמיכה הדדית	.151
4	3	2	1	קיימת עבודת צוות טובה במחלקתי	.152
4	3	2	1	אנחנו הצוות הסייעודי תומכים זה בזה	.153

תודה על השתתפותך.

المخلص

يعتبر استعداد الممرضين للكوارث أمراً بالغ الأهمية لضمان الاستجابة الفعالة للأزمات وتقديم الرعاية اللازمة للمرضى. وعلى الرغم من الجهود العالمية لتعزيز استعداد المهنيين الصحيين للكوارث، حيث لا تزال هناك تحديات في ضمان التدريب المستمر والتأهب الكامل. في حين أجريت دراسات حول الاستعداد للكوارث، لا تزال هناك فجوات كبيرة في دمج مناهج الاستعداد الشامل للكوارث في تعليم التمريض والتطوير المهني المستمر. بالإضافة إلى ذلك، يساهم التباين في تنفيذ ومعايير بروتوكولات التأهب عبر المؤسسات الصحية المختلفة في هذه الفجوات. وبالتالي، هناك حاجة ملحة لتقييم وتعزيز برامج التأهب للكوارث بشكل منهجي لضمان تجهيز الممرضين بشكل كاف للاستجابة للأزمات، خاصة في المناطق ذات الأنظمة الصحية المتنوعة ومستويات متفاوتة من البنية التحتية والموارد. و يهدف هذا البحث إلى دراسة العلاقة بين مرونة الممرضين، سماتهم الشخصية (التفاؤل والقلق)، تفاعلهم مع زملائهم الممرضين، والعوامل التنظيمية في بيئة عملهم، مع كل من الأبعاد الأدواتية (مثل المهارات والموارد) والنفسية (مثل الاستعداد العاطفي والعقلي) للاستعداد للكوارث. بالإضافة إلى ذلك، يسعى البحث إلى تحديد العوامل التي تؤثر على استعداد الممرضين الأدواتية والنفسية للكوارث.

صمم الباحث دراسة مقطعية في مركز Hillel Yaffe الطبي في إسرائيل، شملت 256 ممرضاً مسجلاً تم اختيارهم عن طريق العينة الملائمة. تم جمع البيانات على مدار عام واحد من مايو 2023 إلى مايو 2024، باستخدام استبيان منظم لتقييم الاستعداد والنفسية للكوارث، والمرونة، والسمات الشخصية (التفاؤل والقلق)، والتفاعل بين الممرضين، والعوامل التنظيمية. تم استخدام الإحصاءات الوصفية لتلخيص البيانات. تم استخدام معامل ارتباط بيرسون لاستكشاف العلاقات بين المتغيرات المستمرة. تم إجراء اختبارات t لعينات مستقلة لمقارنة المتوسطات بين مجموعتين مستقلتين، بينما تم استخدام تحليل التباين (ANOVA) لمقارنة المتوسطات بين ثلاث مجموعات أو أكثر. تم إجراء تحليل الانحدار الخطي المتعدد لتحديد العوامل التي تؤثر على الاستعداد الأدوات والنفسية للكوارث لدى الممرضين.

أظهرت نتائج التحليل الوصفي عن مستويات متفاوتة من مرونة الممرضين، سماتهم الشخصية (التفاؤل والقلق)، تفاعلهم مع زملائهم الممرضين، والعوامل التنظيمية، والنفسية للاستعداد للكوارث. أظهر تحليل ارتباط بيرسون وسجود ارتباطات ذات دلالة إحصائية بين مرونة الممرضين، سماتهم الشخصية، تفاعلهم مع زملائهم، والعوامل التنظيمية، وأبعاد

الاستعداد للكوارث. أظهرت اختبارات t لعينات مستقلة وتحليل التباين (ANOVA) وجود فروق ذات دلالة إحصائية في مستويات الاستعداد للكوارث بناءً على العوامل الفردية والتنظيمية. حدد تحليل الانحدار الخطي المتعدد العوامل التي تؤثر على الاستعداد الأدوات والنفسية للكوارث لدى الممرضين. وتشمل هذه العوامل مشاركة الممرضين في شؤون المستشفى، القيادة الداعمة، كفاية الموظفين والموارد، العلاقات الجيدة بين الممرضين والأطباء، التفاعل الإيجابي بين الممرضين، انخفاض مستوى القلق، الجنس الذكري، إكمال دورات التمريض المتقدمة، وزيادة الخبرة السريرية.

الاستنتاج:

أبرزت الدراسة الجوانب المعقدة لاستعداد الممرضين للكوارث، مؤكدة على أهمية الدعم التنظيمي، بيئات العمل الإيجابية، والقيادة. وأشارت إلى أنه في حين أن الاستعداد كان معتدلاً، إلا أن الاستعداد النفسي يحتاج إلى استراتيجيات محددة لتعزيز التكيف وإدارة الإجهاد. يعتبر دمج هذه الجوانب في خطط الكوارث أمراً حيوياً. يمكن أن يؤدي إعطاء الأولوية للتدخلات والتعليم المستهدف إلى تحسين مرونة الممرضين وقدرتهم على تقديم الرعاية الفعالة في حالات الطوارئ.

الكلمات المفتاحية: الاستجابة للأزمات، التفاؤل، الاستعداد للكوارث، الرعاية في حالات الطوارئ، المهنيين الصحيين، التفاعل بين الممرضين، العوامل التنظيمية، السمات الشخصية، الاستعداد النفسي، المرونة، القلق.