

**An Exploration of Nurses' Perceptions on Disaster Risk Awareness
and Disaster Nursing Preparedness and Management in a Long-term
Care Facility**

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Abstract

Background. In Malta, over a thousand elderly individuals reside in long-term care facilities (Formosa, 2019). Given the unpredictability of disasters, their preparedness is of paramount importance. However, the perspectives of nurses in Malta on disaster risk awareness and disaster nursing preparedness are largely unexplored.

Aim. This study aims to explore long-term care nurses' perceptions in Malta on disaster risk awareness and their roles in disaster nursing preparedness and management.

Method. An exploratory-descriptive qualitative (EDQ) approach was adopted for this study, involving face-to-face interviews with eight experienced charge nurses from a major state-owned long-term care facility in Malta. Thematic analysis, following Braun and Clarke's inductive method, was used to analyse the data, allowing themes to emerge naturally from the interviews.

Findings. Analysis revealed three key themes: Disaster Risk Awareness, Disaster Nursing Strategies, and Strengthening Resilience. The findings underscore the crucial role of nurses in crises, highlighting a significant need for specialised training to enhance adaptability and preparedness. Despite observed improvements in resilience, challenges in ensuring comprehensive disaster protection remain.

Recommendations. The study recommends integrating comprehensive disaster awareness training into nursing education, emphasising Malta's unique cultural context. It also advocates for regular policy reviews, the establishment of clear disaster preparedness protocols, specialised response teams, and the development of multidisciplinary collaborations and tiered evacuation plans in care facilities.

Future Research. Future research should include perspectives from a broader range of healthcare stakeholders and examine new facility extensions to gain a more holistic understanding of disaster preparedness in Malta.

Conclusion. The study concludes that nurses are central to effective disaster management in long-term care settings in Malta. Their insights offer valuable guidance for enhancing policies and practices, emphasizing the necessity of continuous training, policy revisions, and collaborative strategies for effective disaster management.

Keywords. NURSES, DISASTER NURSING, DISASTER RISK AWARENESS, DISASTER PREPAREDNESS, DISASTER MANAGEMENT, DISASTER, LONG-TERM CARE FACILITY

Dedication

To my precious Anna,

Within every page of this thesis lies the narrative of our shared resilience and love.

With all my heart, I dedicate this academic achievement to you, my inspiration.

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Abbreviations

ADL	Activities of Daily Living
ANA	American Nurses Association
APA PsycInfo	American Psychological Association
AXIS	Appraisal tool for Cross-Sectional Studies
CASP	Critical Appraisal Skills Programme
CINAHL	Cumulative Index to Nursing & Allied Health
COVID	Coronavirus Disease
CPD	Continued Professional Development
DNCCS	Disaster Nursing Core Competencies Scale
DPC	Disaster Preparedness Curriculum
DPET	Disaster Preparedness Evaluation Tool
EBSCO	Elton Bryson Stephens Company
ED	Emergency Department
EDQ	Exploratory Descriptive Qualitative
EPIQ	Emergency Preparedness Information Questionnaire
FREC	Faculty of Health Sciences Research Ethics Committee
HyDi	Hybrid Discovery
ICN	International Council of Nurses
JBI	Joanna Briggs Institute
LTCF	Long-Term Care Facility
Medline	Medical Literature Analysis and Retrieval System
MeSH	Medical Subject Heading
NCBI	National Center for Biotechnology Information
NUA	New Urban Agenda

OECD	Organization for Economic Cooperation and Development
PEO	Population, Exposure, and Outcome
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analysis
UNDRR	United Nations Office for Disaster Risk Reduction
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNISDR	United Nations International Strategy for Disaster Reduction
WHO	World Health Organisation

CHAPTER 1 – INTRODUCTION

The escalating vulnerability of Malta's long-term care facilities for the elderly to diverse natural and man-made hazards necessitates urgent attention to preparedness and effective disaster management. This study focuses on exploring the perceptions of long-term care nurses in Malta regarding disaster risk awareness and their pivotal role in disaster nursing preparedness and management.

1.1 Background to the Study

Healthcare systems worldwide are increasingly confronted with the need for resilience in the face of disasters and emergencies. This resilience is critical for protecting people, communities, and nations against various risks, including threats to livelihoods, health, cultural heritage, socioeconomic assets, and ecosystems (Organization for Economic Cooperation and Development [OECD] & European Union, 2020). Enhanced resilience entails not only responding to disasters but also anticipating, planning, and reducing disaster risks.

With the growing frequency and intensity of natural disasters, man-made crises, and infectious diseases, the healthcare workforce is at the forefront of responding to these calamities (Hynes et al., 2020). Among healthcare professionals, nurses constitute the largest group and are often the primary responders during disasters (American Nurses Association [ANA], 2017; Smiley et al., 2018). They play a critical role in ensuring optimal outcomes for affected populations, and their knowledge and skills in disaster management are vital.

Disasters pose a significant risk to vulnerable populations, particularly the elderly residing in long-term care facilities. Many of these residents have chronic

medical conditions, are dependent on assistance for daily living, and may have mobility issues or cognitive impairments such as dementia (Aldrich & Benson, 2008). These factors can impede their ability to prepare for, respond to, or recover from disasters. The COVID-19 pandemic has vividly highlighted the vulnerability of elderly populations to health crises, emphasising the need for improved emergency preparedness and enhanced protection and care (Steinman et al., 2020; UNECE, 2020). The pandemic has also underscored the vulnerabilities of long-term care facilities, with high infection and fatality rates among residents, raising alarm about the adequacy of disaster preparedness in these settings (WHO, 2020).

1.2 Local Situation

Malta, a small island nation, is undergoing significant transformations that are increasing its exposure to potential disasters (Main et al., 2022). Despite its historical low-risk profile, current developmental trajectories and urbanisation patterns suggest a heightened vulnerability to future crises. The New Urban Agenda [NUA] (2021) and research by Main et al. (2018, 2022) have highlighted the island's susceptibilities.

The elderly population in Malta, notably vulnerable to disasters, often finds their safety compromised in care institutions that lack robust disaster response strategies (Guddo, 2020). The research of Banks (2013) has emphasised the importance of disaster preparedness in these settings. Despite recommendations against complacency (Camilleri, 2003), there remains a gap in disaster preparedness, particularly concerning the protection of elderly residents in long-term care facilities.

1.3 Research Challenge

The complex interconnections between environmental changes, climate change, and health outcomes have been brought into sharp focus by recent global events, including natural disasters and pandemics (Barouki et al., 2021). These challenges have

intensified the demand for knowledgeable and skilled healthcare professionals who can effectively respond to and manage disaster scenarios. Within the healthcare workforce, nurses are pivotal in disaster response. However, there is a recognised gap in disaster nursing education, specifically concerning established competency frameworks that could guide nurses in these situations (Loke & Fung, 2014).

1.4 Identifying the Research Gap

In Malta, despite the recognised importance of disaster preparedness, there is a noticeable absence of research focusing on nurses' awareness and preparedness for disaster risks, particularly in the context of long-term care facilities. This study seeks to address this gap by illuminating the crucial role of disaster nursing in the context of Malta's care settings and examining the preparedness of nurses to handle emergencies and disasters effectively.

1.5 Aims and Objectives of the Study

The primary aim of this study is to explore the perceptions of nurses regarding disaster risks, their awareness of natural and man-made hazards in Malta, and their preparedness for disaster nursing and management. The study also seeks to gain a deeper understanding of the roles nurses in long-term care facilities might see for themselves in the context of disasters and emergencies.

Specifically, the study endeavours to answer the following research questions:

(1) How do nurses perceive disasters in Malta, and what are their perspectives on disaster nursing preparedness and management?

(2) In the event of a disaster within a long-term care facility, what roles do nurses envision for themselves?

1.6 Relevance and Significance

This study adopts an exploratory-descriptive qualitative approach to delve into the subjective experiences of charge nurses in Malta, particularly within long-term care facilities. By focusing on their perceptions of potential hazards, preparedness, and roles during emergencies, the study seeks to offer insights that are critical for enhancing disaster management strategies.

The research environment for this study is one of Malta's largest state-owned long-term care facilities for the elderly, selected due to its significance within Malta healthcare system. Findings from this research will contribute to the scant literature on disaster nursing in Malta and provide a baseline understanding for future research, policymaking, and practice improvements.

With Malta's evolving risk landscape (Atwii et al., 2022), understanding nurses' perceptions on disaster risks and their readiness to handle such situations becomes crucial for effective disaster preparedness and response planning. This study, being pioneering in its focus within Malta, offers a novel contribution and serves as a foundation for future efforts aimed at enhancing disaster readiness in long-term care facilities.

This study has been ethically approved by the Faculty of Health Sciences Research Ethics Committee (FREC) at the University of Malta.

1.7 Overview of the Study

The structure of this thesis is designed to systematically guide the reader through the research process and findings. Following this introduction, Chapter 2 reviews the literature on nurses' perceptions on disaster risk awareness and preparedness, and their roles in managing such situations. Chapter 3 describes the research methodology employed in the study. Chapter 4 presents the findings of the research, offering insights

into nurses' perceptions and preparedness for disasters. Chapter 5 provides a critical analysis of the findings in relation to the existing literature. Chapter 6 concludes the study by summarising key insights and providing recommendations to enhance disaster readiness in long-term care facilities.

CHAPTER 2 – LITERATURE REVIEW

The importance of conducting a comprehensive literature review within the context of qualitative research cannot be overstated. It serves as a foundation for building a robust understanding of the research domain, aligning the study with existing knowledge, and enhancing the overall credibility of the research endeavour (Randolph, 2009). This literature review attempts to provide a comprehensive overview of the existing scholarship surrounding nurses' perceptions of disaster risk awareness and disaster nursing preparedness and management. By inquiring about the broader concepts of disasters, the local context of the Maltese island, and the specialised role of nurses in healthcare facilities, the researcher hopes to contribute to a deeper understanding of this critical domain, ultimately enhancing the preparedness and resilience of Malta's healthcare systems in the face of disasters.

2.1 Literature Search Strategy

Comprehensive coverage of relevant literature and data is crucial. A carefully designed search strategy is essential for a thorough review of the literature regarding nurses' views on disaster risk awareness and nursing preparedness in long-term care facilities, in line with Booth's (2016) recommendations. The subsequent sections delineate the systematic process adopted for this purpose, which was executed during the timeframe spanning from September to December 2022.

2.1.1 Defining the Research Questions

The primary objective of this literature search was to explore the perceptions of nurses on disaster risk awareness and disaster nursing preparedness and management in healthcare facilities. To facilitate systematic and comprehensive literature searches, the Population, Exposure, and Outcome (PEO) framework was used to provide structured ways of breaking down research questions (Riva et al., 2017).

2.1.2 Identification of Key Concepts

The research question was deconstructed into pivotal concepts, which included: Nurses' perceptions, Disaster risk awareness, Disaster nursing preparedness, Disaster nursing management, and Long-term care facility as presented in Table 2. 1.

2.1.3 Keyword Generation

For each key concept, a list of synonyms and related terms was created to enhance the breadth of the search. Keywords and numerous terms, their synonyms, and Medical Subject Heading (MeSH) terms were utilised in the search strategies as presented in Table 2. 1.

2.1.4 Eligibility Criteria

Criteria for article selection were established beforehand as presented in Table 2. 2. The search result was limited to peer-reviewed articles published in English that were accessible and published from 2016 to 2022. A pertinent abstract on the role, knowledge, and experience of nurses in disaster nursing, disaster preparedness, and disaster management was required for inclusion criteria. Articles were excluded if their entire content failed to explore the awareness, perception, and role of nurses in disaster preparedness and management. Additionally, disaster nursing roles of nursing students are not included.

Table 2. 1

Keywords, Synonyms/related phrases, and Search Terms Used in the Search Process

PEO element	Keywords	Synonyms / alternative phrases	Search terms
Population (P)	Nurses in a long-term care facility Nurses Long-term care facility	Nurse, Registered nurse(s), nursing staff, Nursing home(s), Care home(s), Residential care(s), Elderly care facility(ies), Senior care facility(ies), Assisted living facility(ies), healthcare	Nurse*, Registered nurses, nursing staff, Nursing home*, Care home*, Residential care*, Elderly care facilit*, Senior care facilit*, Assisted living facilit*, healthcar*
Exposure (E)	Disaster Risk Awareness and disaster nursing preparedness and management	Emergency readiness Crisis preparedness Disaster responsiveness Nursing during emergency(ies) Nursing during disaster(s) Disaster risk reduction(s) Emergency management in nursing Crisis management in nursing Emergency protocol(s)	Disaster risk aware* Disaster nursing prepare* Disaster nursing manag* Emergen* readi* Crisis prepare* Disaster respons* Nursing during emergen* Nursing during disaster* Disaster risk reduction* Emergen* management in nurs* Crisis management in nurs* Emergen* protocol*
Outcome (O)	Perceptions or understanding of the exposure	Understanding, Viewpoints, Attitudes Beliefs, Insights, Perspectives, Cognisance, Apprehension, Awareness, Opinions	Understand* Viewpoint* Attitud* Belief* Insight* Perspectiv* Cognisan* Percept* Aware* Opinion*

Table 2. 2*Criteria for Including and Excluding Search Results, with Justification*

Inclusion Criteria	Exclusion Criteria	Rationale
Population – Studies which include human adults >18 y/o and above, nurses, registered nurses, nursing managers, advanced practice nurses, any gender, any ethnicity.	Studies that include human adults <18 y/o and below, animals, not registered nurses e.g., nursing students.	The choice to focus on human adults aged 18 and above, encompassing nurses in various roles, ensures the researcher captured the perceptions of practicing professionals from diverse nursing backgrounds, irrespective of gender or ethnicity.
Workplace setting – Studies including long-term care facility, and other healthcare facilities.	Studies based in non-healthcare facilities.	The primary setting of interest is long-term care facilities. However, including other healthcare facilities allows for a richer context and possible transferable insights.
Outcomes – Outcomes of eligible studies addressing the perception/opinions or understanding of nurses in disaster nursing, disaster risk awareness, and disaster preparedness and management.	Outcomes of eligible studies that do not address the perception/opinions or understanding of nurses in disaster nursing, disaster risk awareness and disaster preparedness and management.	The selected outcomes ensure alignment with our primary objective: understanding nurses' perceptions and knowledge surrounding disaster preparedness and management.
Studies – systematic reviews and meta-analyses, cross-sectional studies, randomised control trials, cohort studies	Newspaper articles, Editorial and opinion columns, Anecdotal information, Proposal/incomplete study, Background information	The types of studies included—ranging from systematic reviews to cohort studies—provide a mix of synthesised, cross-sectional, and longitudinal insights to offer a comprehensive understanding.
Year of publication – 2016- 2022	Studies conducted or published before 2016 and after 2022	The period from 2016-2022 has seen several significant global and regional disasters, including the COVID-19 pandemic. These ensures that the review captures contemporary perspectives and reflects recent global events impacting disaster preparedness.
Language – studies published in English.	Non-English publications	Focusing on English-language studies makes the review feasible while still accessing a wide range of research from diverse global settings.
Publication status – peer reviewed	Non-peer-reviewed	Limiting to peer-reviewed articles ensures the credibility and quality of the included studies.

2.1.5 Database Selection

A comprehensive search strategy will include multiple databases, journals, and perhaps even grey literature, ensuring a diverse range of perspectives and methodologies are taken into account. To ensure wide coverage of relevant literature, several databases known for their richness in nursing and disaster management literature were selected. Levay and Craven (2019) emphasise the importance of diverse sources for a comprehensive literature review. This diversity strengthens the validity of the literature review. Search engines like Google Scholar and several databases including CINAHL Complete (EBSCOhost), PubMed, Cochrane Library, Academic Search Ultimate, AgeLine, Medline Complete, APA PsycInfo and The Hybrid Discovery (HyDI) platform from the University of Malta Library website were used.

2.1.6 Search String Construction

In constructing search strings for the literature review, key concepts from the research questions were initially identified and used to develop preliminary search terms. These terms underwent iterative refinement based on initial search outcomes, enhancing the specificity and relevance of the results. The search process was further refined using Boolean operators—AND, OR, NOT—and the asterisk (*) symbol for truncation, which broadened the search to include various word endings and plurals. For example, a representative search string was: "(Nurses' perceptions OR views) AND (Disaster risk awareness OR hazard awareness) AND (long-term care facility OR nursing home)." This approach, emphasising the precision of search syntax as highlighted by Parahoo (2014) and Bettany-Saltikov and McSherry (2016), was instrumental in efficiently targeting relevant literature and minimising the retrieval of unrelated articles. The detailed methodology, including the systematic use of Boolean operators and truncation, is elaborated in Table 2. 3.

Table 2. 3

Search String Construction Adapted from the Guidelines of Bettany-Saltikov (2010)

Population	'AND' Exposure	'AND' Outcome
1. Nurse*	12. Disaster risk aware*	25. Understanding
2. Nursing staff	13. Disaster nursing prepare*	26. Viewpoints
3. Nursing home*	14. Disaster nursing manag*	27. Attitudes
4. Nursing in a Long-term care Facility,	15. Emergen* readi*	28. Beliefs
5. Care home*,	16. Crisis prepare*	29. Insight
6. Residential care*,	17. Disaster respons*	30. Perspectives
7. Elderly care facility*,	18. Nursing during emergen*	31. Cognisance
8. Senior care facility*,	19. Nursing during disaster*	32. Apprehension
9. Assisted living facility*,	20. Disaster risk reduction*	33. Awareness
10. Healthcare*	21. Emergen* management in nurs*	34. Opinions
	22. Crisis management in nurs*	35. Percept*
	23. Emergen* protocol*	
11. Combining 1-10 using the operator 'OR'	24. Combining 12-23 using the operator 'OR'	36. Combining 25-35 using the operator 'OR'

The final syntax search would include steps 11 + 24 + 36 using the Boolean operator 'AND'

2.1.7 Search Execution and Documentation

Upon constructing the search strings, they were inputted into the selected databases. Every search was documented, noting databases searched, the exact search strings used, the number of results, and any applied filters. The initial results from each database, as well as the combined total, are detailed in Table 2. 4 and in the PRISMA flow diagram (Figure 2. 1).

Table 2. 4*Number of Hits Retrieved Adapted from Bettany-Saltikov (2010)*

Database	Search 1 (step 11) n	Search 2 (step 11 + 24) n	Search 3 (step 11 + 24+36) n
CINAHL Complete	61	34	18
Medline via EBSCO	0	0	116
PubMed (NCBI)	20207	16920	883
Cochrane Library	36	24	2
Academic Search Ultimate	497	386	188
AgeLine	59	38	16
Medline Complete	844	565	218
APA PsycInfo	223	108	74
Total hits retrieved	21927	18075	1515

2.1.8 Initial Screening and Full-text Retrieval

Titles and abstracts were initially screened for relevance. Following this initial screen, potential articles were subjected to a detailed full-text review. Articles were excluded based on the predetermined inclusion and exclusion criteria. The detailed process of screening, exclusion, and final selection of articles is illustrated in the PRISMA flow diagram (Figure 2.1).

2.1.9 Reference Management

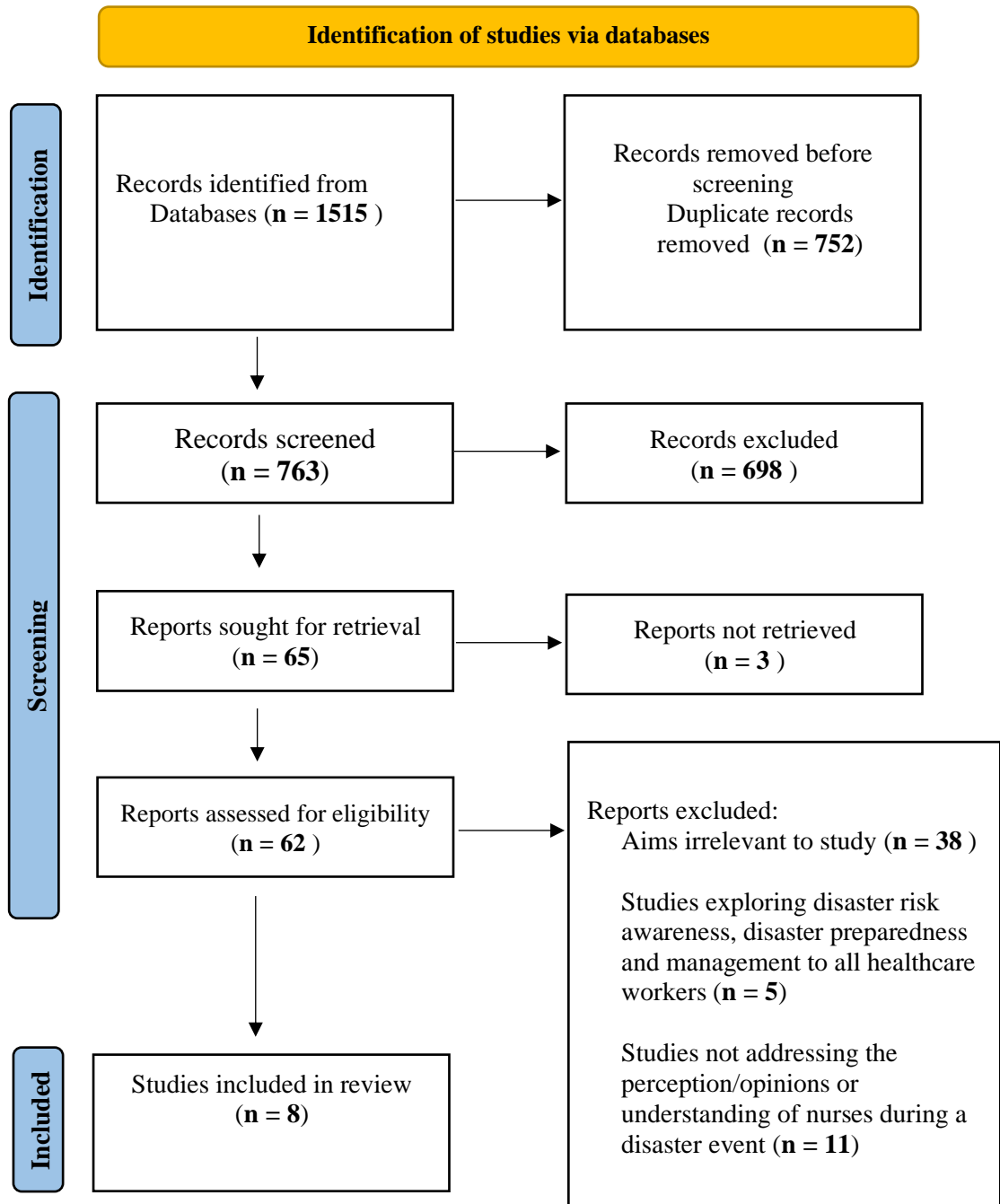
RefWorks was used for citation management, note-making, and the elimination of duplicates.

2.1.10 Supplementary Search

The reference lists of pivotal articles were also perused to ensure no significant studies were overlooked.

Figure 2. 1

Diagram Representing the Study Selection Procedure According to PRISMA-2020 (Adapted from Page et al., 2021)



2.2 Overview of Studies Included for Review

Over the past few years, a significant amount of research has been dedicated to understanding and enhancing the preparedness of nurses in the face of varying disaster scenarios. One such study by Karnjus et al. (2021) conducted in Slovenia found that registered nurses regard the core competencies of disaster nursing as paramount to their preparedness. However, despite the significance attached to these competencies, a gap was observed in the actual training, education, and expertise of nurses in disaster situations, especially when it comes to disaster planning and implementation of guidelines. This underlines the pressing global need, as mentioned by the study, to embed disaster management in nursing education curricula.

Similarly, a literature review by Al Harthi et al. (2020) brought forth challenges nurses face globally in disaster management. It identified disaster nursing as a budding specialty facing issues like inadequate preparedness, insufficient formal education, ethical dilemmas, and ambiguities surrounding nurses' roles during disasters. The authors recommended a comprehensive rehaul of the nursing education system, emphasising the importance of integrating disaster management into the curriculum.

Amberson et al. (2020) explored the preparedness of emergency nurses in Southern California. They reported that simply integrating disaster preparedness education into daily routines can significantly improve the readiness of these nurses. Their findings suggest that such an approach is both feasible and beneficial.

Examining into the Indonesian perspective, Martono et al. (2019) gauged Indonesian nurses' perceptions of disaster management preparedness. A discernible low level of preparedness was observed, emphasising the need for continuous disaster management education and clear role delineation during disasters.

The global overview by Labrague et al. (2018) in their systematic literature review revealed that while prior disaster exposure and training can significantly enhance preparedness, nurses, in general, remain underprepared and less confident in disaster responses. The review underscores the immediate need for hospitals to incorporate specialised disaster response training for nurses.

A focused study from Pakistan by Shabbir et al. (2017) reported a dichotomy between knowledge and practice. While emergency nurses exhibited commendable knowledge of disaster management, their practical application in hospital settings was markedly suboptimal, indicating the need for frequent skill refreshers.

In Taiwan, Tzeng et al. (2016) identified that most hospital nurses weren't adequately prepared for disaster response. They highlighted the importance of introducing disaster-related training in nursing curricula and continuous education, stressing its significance for bolstering hospital nurses' disaster readiness.

Lastly, Grochtdreis et al. (2016) conducted a literature review focusing on North America, emphasising the multifaceted roles of nurses during emergency response. Their study emphasised the importance of preparedness via training and education and highlighted the need for clear role definitions, consistent with the WHO and International Council of Nurses [ICN] framework (ICN, 2009). They also stressed the significance of the work environment and mental well-being of nurses' post-disaster.

While the prominence of nurses in disaster management and response is unanimously recognised globally, there remains a conspicuous gap in their training and preparedness. Addressing this lacuna requires a multifaceted approach involving curriculum enhancement, consistent training, and dedicated mental and emotional support. The studies unanimously advocate for an integrated approach where disaster

preparedness becomes a core component of nursing education and practice, thus ensuring that nurses are better equipped to handle disaster situations.

Table 2. 5*Outline of Studies, Sorted by Publication Date in Descending Order*

Author / Year / Setting / TITLE	Samples	Purpose	Research Design	Instrument	Major Findings
<p>Karnjus et al., 2021 Slovenia</p> <p>Nurses' core disaster-response competencies for combating COVID-19—A cross-sectional study</p>	<p>118 licensed nurses working in various clinical settings in Slovenia</p>	<p>To investigate how nurses from various clinical contexts view the essential skills of disaster nursing, their role in disaster management, and potential hurdles.</p>	<p>Cross-sectional Descriptive Study</p>	<p>The Slovenian version of the Disaster Nursing Core Competencies Scale questionnaire</p> <p>SPSS (IBM, Version 25)</p> <p>Descriptive statistics</p> <p>Non-parametric Kruskal Wallis H test and the Mann-Whitney U test</p> <p>Pearson's chi-square test</p>	<p>Registered nurses regard the fundamental competencies of disaster nursing as crucial to their readiness for disaster scenarios, reflected in a median score of 161 (range: 74–189).</p> <p>Registered nurses employed in nursing homes, along with nurse managers, exhibit a heightened awareness of the importance of developing competencies for unforeseen incidents, as indicated by p-values of 0.011 and 0.060 respectively. Furthermore, they acknowledge the significance of their proactive involvement in disaster management, evidenced by p-values of 0.027 and 0.004, respectively.</p> <p>Despite their experience, many nurses lack vital disaster preparedness skills. They need more involvement in disaster management to respond effectively to crises.</p>

Author / Year / Setting / TITLE	Samples	Purpose	Research Design	Instrument	Major Findings
<p>Al Harthi et al., 2020 Globally</p> <p>Challenges for Nurses in Disaster Management: A Scoping Review</p>	<p>10 articles were reviewed.</p> <p>(2010 and February 2020)</p>	<p>This scoping review's goal is to explore and talk about the obstacles that nurses are facing in disaster.</p>	<p>Systematic Review</p>	<p>Electronic Databases: Saudi Digital Library, the Science Direct, Scopus, and Cumulative Index to Nursing and Allied Health Literature</p> <p>Joanna Briggs Institute (JBI) method</p>	<p>There were six major issues that needed to be addressed: the fact that disaster nursing is a relatively new field; a lack of preparation; inadequate formal education; a dearth of research; ethical and legal concerns; and poorly defined roles.</p> <p>Implications and Recommendations: Formulate an educational framework and curriculum for disaster nursing, focusing on ongoing education and training. Refine the prehospital system to guarantee efficient nursing performance within the healthcare framework during disasters. Enhance the disaster plan in hospitals for a cohesive team response, ensuring participation of all stakeholders including nurses. Revise policies and protocols pertaining to disaster nursing to address conflict and ethical issues, ensuring they are familiar to all healthcare providers.</p>

Author / Year / Setting / TITLE	Samples	Purpose	Research Design	Instrument	Major Findings
<p>Amberson et al., 2020 Southern California</p> <p>Increasing Disaster Preparedness in Emergency Nurses</p>	<p>Pre-test = 54 emergency nurses</p> <p>Post-test = 33 emergency nurses</p>	<p>To examine, evaluate, and enhance emergency nurses' levels of preparedness at a Southern California acute care community hospital.</p>	<p>Quasi-Experimental Research</p> <p>Single group pre/post-test of an educational intervention</p>	<p>Adapted Emergency Preparedness Information Questionnaire (EPIQ) was given to all emergency nurses at the practice location to compare disaster preparedness levels before and after a 6-month education intervention.</p> <p>During a 6-month period, a 9-module disaster preparedness curriculum (DPC) tailored to EDs was developed and used. The intervention's novelty was in how the information was disseminated: daily shift huddles, regular emails, a designated whiteboard, and presentations at staff meetings.</p> <p>The data were analysed using paired t tests, descriptive statistics, and Pearson correlation.</p>	<p>Nurses exhibited moderate levels of disaster preparedness. A strong correlation was observed between the duration of service in emergency departments and nurses' self-assessed preparedness, with prior disaster training also showing relevance. Notably, there was a significant increase of 16.9 points (23.5%) in the average scores of the Emergency Preparedness Information Questionnaire following the intervention ($t(33) = -10.27, P < 0.001$).</p> <p>The findings indicate that an emergency department-specific disaster preparedness curriculum, implemented through existing communication channels, can effectively enhance nurses' preparedness levels at a minimal additional cost. The educational method applied in this study was distinctive in its integration with the clinical practice workflow, thus overcoming common barriers to the professional development of emergency nurses. The utilization of established communication channels suggests that this intervention approach is both replicable and sustainable..</p>

Author / Year / Setting / TITLE	Samples	Purpose	Research Design	Instrument	Major Findings
<p>Martono et al., 2019 Indonesia</p> <p>Indonesian nurses' perception of disaster management preparedness.</p>	<p>1341 Indonesian nurses</p>	<p>To assess Indonesian nurses' perception of their knowledge, skills, and preparedness regarding disaster management.</p>	<p>Descriptive comparison in design, which utilised a quantitative approach</p>	<p>Adapted Disaster Preparedness Evaluation Tool (DPET)</p> <p>Analysis of Variance (ANOVA)</p> <p>T-test</p>	<p>Out of 1341 Indonesian nurses surveyed, the mean scores for readiness to manage disasters, capacity for recovery post-disaster, and assessment of disaster victims stood at 3.13, 2.53, and 2.46, respectively.</p> <p>Overall, the surveyed nurses were identified as being inadequately prepared for disaster management. Additionally, there was a noted lack of clarity regarding their roles both in the phases of disaster preparedness and in managing post-disaster scenarios.</p>
<p>Labrague et al. 2018 Globally</p> <p>Disaster preparedness among nurses: A systematic review of literature</p>	<p>17 articles were reviewed (2006-2016)</p>	<p>To research peer-reviewed articles that assess nurses' preparedness to respond to disasters.</p>	<p>Systematic Review</p>	<p>Electronic Databases: SCOPUS, MEDLINE, PubMed, CINAHL, and PsychINFO</p>	<p>Disaster-related training and prior experience in responding to disasters significantly contribute to enhancing disaster response preparedness.</p> <p>There is a notable deficiency in both confidence and preparedness among nurses for crisis response. It is imperative for hospitals to establish policies aimed at rectifying this lack of preparedness among staff members.</p> <p>Real-world disaster experience and targeted training exercises are key to effectively preparing nurses for disaster management and response.</p>

Author / Year / Setting / TITLE	Samples	Purpose	Research Design	Instrument	Major Findings
<p>Shabbir et al, 2017 Pakistan</p> <p>Nurses Knowledge and Practices Regarding Disasters Management and Emergency Preparedness.</p>	<p>156 Emergency Nurses in Children Hospital & Institute of Child Health Lahore and General Hospital Lahore</p>	<p>To assess nurses' level of knowledge in emergency preparedness and disaster preparedness.</p>	<p>Quantitative cross-sectional</p>	<p>Semi-structured questionnaire</p> <p>Descriptive and standard deviation on SPSS version 21 and inferential statistics Chi square test</p>	<p>Nurses have good knowledge on disaster, disaster preparedness and management (65.4%)</p> <p>Nurses showed poor practices on emergency and disaster preparedness (83.3%)</p>
<p>Tzeng et al., 2016 Taiwan</p> <p>Readiness of hospital nurses for disaster responses in Taiwan: A cross-sectional study.</p>	<p>311 registered nurses</p>	<p>To examine the perceived preparedness of hospital nurses for disaster response as well as the variables affecting their willingness to accept job outside the hospital setting.</p>	<p>Cross-sectional research design</p>	<p>40-item researcher-designed, self-administered questionnaire with four domains: personal preparation, self-protection, emergency response, and clinical management</p> <p>SPSS version 22.0 software Descriptive statistics, Independent t-tests and Generalised linear models.</p>	<p>A strong frontline team is required because patients in disaster zones frequently need critical treatment.</p> <p>Poor disaster response preparedness was shown by hospital nurses.</p> <p>The factors that were most strongly linked to higher survey scores included disaster-related training, disaster experience, and emergency and intensive care experience.</p> <p>Higher self-reported ratings in emergency response were also linked to nursing experience (>10 years).</p> <p>The more nurses participate in disaster planning management, the more prepared they are to act.</p>

Author / Year / Setting / TITLE	Samples	Purpose	Research Design	Instrument	Major Findings
<p>Grochtdreis et al., 2016 North America</p> <p>Nurses' roles, knowledge and experience in national disaster preparedness and emergency response: A literature review</p>	<p>68 articles were reviewed (regardless of the year of publication)</p>	<p>The purpose of this literature review is to give a general overview of nurses' roles, knowledge, and training in disaster preparedness and response on a national scale.</p>	<p>Systematic Review</p>	<p>Electronic Databases: CINAHL (EBSCO), PubMed, Cochrane Library, and Carlit</p>	<p>In emergency response, nurses play a key role.</p> <p>Roles of Nurses During Emergency Response: Nurses have various roles during emergencies, including meeting the expectations of hospitals and the public, taking on general and specialised roles, managing medical tasks, playing specific roles during pandemics, facing role conflicts during disasters, and demonstrating a willingness to respond.</p> <p>Disaster Preparedness Knowledge: Nurses need to understand the definition of a disaster, possess core competencies, be informed through undergraduate education and continuous education programs, participate in disaster drills, training, and exercises, and be adequately prepared for emergencies.</p> <p>Disaster Experiences of Nurses: Experiences encompass understanding the work environment, the nature of nursing care during disasters, managing emotions, recognising stressors, gauging willingness to respond, and learning from past incidents.</p>

2.3 A Critical Review of Eight Relevant Studies

The appraisal of chosen studies is a critical step in research and evidence-based practice. It ensures the quality and reliability of research findings, helps identify biases and limitations, supports informed decision-making in healthcare, and contributes to the advancement of knowledge within various fields (Al-Jundi and Sakka, 2017). This section will systematically evaluate the research design, data collection methods, analysis, interpretation, and ethical considerations of eight studies. It will present both strengths and weaknesses in each study, forming a well-rounded assessment of their quality and reliability. The appraisal will utilise specific tools appropriate for each study type, including the AXIS tool for cross-sectional studies, the PRISMA-ScR checklist for systematic reviews, and the CASP checklist for quasi-experimental studies. This approach ensures each study is evaluated appropriately for its design, thereby enhancing the overall quality and reliability of the literature review. Additionally, considering how the studies contribute to the broader literature on disaster nursing and preparedness is crucial for a comprehensive critique.


2.3.1 Cross-Sectional Studies


The AXIS tool (Appraisal tool for Cross-Sectional Studies) was used to assess the risk of bias in the cross-sectional studies by Karnjus et al. (2021), Martono et al. (2019), Tzeng et al. (2016), and Shabbir et al. (2017) (see Table 2. 6). The AXIS tool, specifically designed for appraising the methodological quality and potential sources of bias in cross-sectional studies, includes a series of questions that guide the assessment of the study's design, data collection methods, and reporting (Downes et al., 2016). It systematically appraises the strengths and weaknesses of each study's methodology, ensuring a comprehensive evaluation of its risk of bias.

Table 2. 6

Risk of Bias Based on the AXIS tool (Adapted from Kulik et al., 2021)

Study ID	Clear aim and objectives?	Sample size justified?	Study Design appropriate?	Target population clearly defined?	Appropriate population?	Selection process	Appropriate risk factors and outcomes?	Measurement of Outcomes	Statistical Analysis	Methods described in detail?	Basic data adequately described?	Non-response bias?	Internally consistent results?	Results of analyses presented?	Conclusions justified by results?	Limitations discussed?	Conflicts of interest?	Ethical approval and consent?
Karnjus et al. (2021),	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green	Green	Green	Green
Martono et al., (2019),	Green	Green	Green	Green	Yellow	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green	Red	Yellow	Green
Tzeng et al., (2016)	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green	Red	Green	Green
Shabbir et al., (2017)	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green	Green	Red	Green

 Low risk of bias/error

 Unclear Risk of bias/error

 High Risk of bias/error

2.3.2 Systematic Reviews

The PRISMA-ScR (Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews) checklist was used to the scoping reviews of Al Harthi et al., (2020), Labrague et al., (2018) and Grochtdreis et al., (2016) to assess its methodological quality and transparency in reporting as displayed in Table 2. 7. Applying PRISMA-ScR ensures that these reviews are conducted systematically, with transparent methods, comprehensive searches, clear inclusion criteria, rigorous data extraction, and synthesis, leading to reliable and valid conclusions and recommendations.

Table 2. 7

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist (Adapted from Tricco et al., 2018)

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	Al Harthi et al., (2020)	Labrague et al., (2018)	Grochtdreis et al (2016)
		TITLE	reported on page #		
Title	1	Identify the report as a scoping review.	p.2627	p.41	p.1
		ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	p.2627	p.41	p.2
		INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	p.2628	p.42	p.4
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualise the review questions and/or objectives.	p.2628	p.42	p.4

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	Al Harthi et al., (2020)	Labrague et al., (2018)	Grochtdreis et al (2016)
METHODS					
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	p.2627	p.42	Not available
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	p.2628	p.42-43	p.4
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	p.2628	p.43	p.4
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	p.2628	p.43	P.4
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	p.2628	p.43	p.4
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	p.2629	p.43	p.4
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	p.2630-2631	p.44-47	p.5
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	p.2630-2631	p.44-47	Not available
Synthesis of results	13	Describe the methods of handling and summarising the data that were charted.	p.2630-2631	p.44-47	p.5
RESULTS					

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	Al Harthi et al., (2020)	Labrague et al., (2018)	Grochtdreis et al (2016)
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	p.2630-2631	p.44-47	p.5
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	p.2630-2631	p.44-47	p.5
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	p.2630-2631	p.44-47	Not available
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	p.2630-2631	p.48-49	p.6-13
Synthesis of results	18	Summarise and/or present the charting results as they relate to the review questions and objectives.	p.2630-2631	p.47-49	p.6-13
DISCUSSION					
Summary of evidence	19	Summarise the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	p.2631-2633	p.50	p.13
Limitations	20	Discuss the limitations of the scoping review process.	p. 2633	p.52	Not available
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	p. 2633	p.52	p.15
FUNDING					
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	p. 2633	p.41	p.2

2.3.3 *The Critical Appraisal Skills Programme (CASP) checklist*

For Amberson et al.'s (2020) study, which employed a pre/post-test design, the CASP checklist for cohort studies or controlled trials was used to assess the study's methodology, encompassing aspects such as study design, sampling methods, and the

statistical analysis employed (Long et al., 2020). This appraisal tool (Table 2. 8) will facilitate the identification of potential sources of bias that may affect the study's internal validity, such as confounding variables or selection bias.

Table 2. 8

CASP cohort study checklist (Adapted from Diaz et al., 2021)

	Amberson et al., 2020
1. Did the study address a clearly focused issue?	Yes
2. Was the cohort recruited in an acceptable way?	Can't Tell
3. Was the exposure accurately measured to minimise bias?	Yes
4. Was the outcome accurately measured to minimise bias?	Yes (adapted EPIQ questionnaire)
5. (a) Have the authors identified all important confounding factors?	Yes
5. (b) Have they taken account of the confounding factors in the design and/or analysis?	Yes
6. (a) Was the follow up of subjects complete enough?	Yes
6. (b) Was the follow up of subjects long enough?	Can't Tell
7. What are the results of this study?	A notable elevation of 16.9 points (23.5%) was observed in the average scores of the Emergency Preparedness Information Questionnaire, comparing pre- and post-intervention data ($t(33) = -10.27, P < 0.001$).
8. How precise are the results?	Yes
9. Do you believe the results?	Yes
10. Can the results be applied to the local population?	Yes
11. Do the results of this study fit with other available evidence?	Can't Tell
12. What are the implications of this study for practice?	Yes (The research indicates that a bespoke disaster preparedness curriculum, disseminated via existing clinical communication pathways, can effectively enhance the level of preparedness among nurses. This implies that such an approach may be a cost-effective way to enhance disaster preparedness in healthcare settings.)

The critical appraisal of these studies reveals a global trend of inadequate preparedness and training in disaster nursing. This finding aligns with the broader literature in the field, underscoring the need for enhanced training and clear role delineation for nurses in disaster scenarios. Through this appraisal, the researcher could identify common challenges and best practices, contributing to a nuanced understanding of how to improve disaster preparedness and management in nursing globally and specifically in Malta.

2.4 Methodological Foundations and Critical Review Considerations

In the realm of literature review, methodological foundations and critical review considerations are pivotal aspects that shape the evaluation of research. Clarity and specificity of the study focus serve as fundamental pillars, as elucidated by Hart (1998), emphasising their role in establishing the research's significance and relevance. A well-defined focus facilitates a coherent understanding of the research landscape, ensuring that research questions are precisely addressed. Across all studies discussed, a clear and specific study focus was evident, enhancing the overall quality of the research.

The research designs employed in the selected studies varied to suit their objectives. Higgins and Green (2011) stress the importance of considering study design when assessing evidence quality, as varying designs have varying susceptibility to bias. Therefore, comprehending and evaluating study design is essential to ensure that research conclusions are grounded in robust and dependable methodologies.

Furthermore, the studies carefully identified their target populations. Van Teijlingen and Hundley (2001) underscore the necessity of clear population descriptions and well-defined sampling frames, especially in assessing a study's external validity.

The selection of participant samples in these studies was generally well-described. A well-structured selection process, as advocated by Creswell and Creswell

(2017), ensures the representativeness of the sample, and minimises selection bias. It enhanced the studies' transparency and credibility.

Ensuring the validity and reliability of research tools was a common practice in these studies. Karnjus et al. (2021) employed a validated scale, the Slovenian version of the Disaster Nursing Core Competencies Scale, to assess nurses' competencies.

Amberson et al. (2020) used an adapted questionnaire for their intervention study.

Martono et al. (2019) utilised the Disaster Preparedness Evaluation Tool (DPET). These measures demonstrated efforts to maintain the quality and accuracy of data collection (Creswell and Creswell, 2017).

Additionally, the studies reported participant responses with clarity. Dillman et al., (2014) highlight the significance of monitoring participant response rates and the potential for non-response bias. Evaluating participant responses is paramount in comprehending potential study limitations and their implications for result interpretation.

The presentation and discussion of findings were thorough in all studies. Authors provided detailed explanations of their results, often supported by statistical analysis. For instance, Labrague et al. (2018) identified factors influencing nurses' readiness for disaster response and discussed their implications. Amberson et al. (2020) discussed the effectiveness of their educational intervention. This comprehensive approach allowed for a deeper understanding of the research outcomes (Taylor et al., 2016).

Lastly, the studies addressed potential conflicts of interest and ethical considerations. Authors disclosed any conflicts of interest, ensuring transparency. They also mentioned ethical approval and informed consent, indicating a commitment to

ethical research practices. These steps enhanced the credibility of the studies and ensured participant welfare.

2.5 Over-all Bias Risk in all Relevant Studies

While the studies demonstrated clarity, specificity, and rigorous methodologies, it is important to acknowledge potential bias risks inherent in any research. Bias could result from the study design, data collection methods, or even publication bias in the case of literature reviews. However, the studies took measures to minimise bias by using validated instruments, transparent reporting, and ethical considerations. An overview of the relative sources of bias found in the chosen studies is shown in Table 2.6, Table 2.7, and Table 2.8. These investigations had minimal bias risks, resulting in credible results.

2.6 Synthesis of Evidence on Disaster Nursing Preparedness

The selected studies collectively provide a comprehensive understanding of how nurses perceive and navigate disaster risk awareness and preparedness in various healthcare settings. This section will provide and analyse the findings from the eight investigations, grouping them into themes.

2.6.1 Determinants of Disaster Risk Awareness and Preparedness in Healthcare Facilities

From the studies presented, several factors emerge that could act as either barriers or facilitators to disaster risk awareness and preparedness in healthcare facilities. Table 2.9 will present how recognising and addressing barriers while leveraging and strengthening facilitators can pave the way for a more robust disaster risk awareness and preparedness in these specialised settings.

Table 2. 9*Factors Influencing Disaster Risk Awareness and Preparedness in Healthcare Facilities*

Factor	Barrier	Facilitator
Training and Education	Lack of adequate training and formal education in disaster nursing (Al Harthi et al., 2020; Karnjus et al., 2021; Shabbir et al., 2017).	Continuous training and disaster-related exercises can enhance nurses' competencies. Tailored training for unique patient populations in LTCFs (Amberson et al., 2020; Martono et al., 2019).
Communication	Ineffective communication can impede disaster management (Al Harthi et al., 2020).	Using pre-existing communication channels. Regular drills, briefings, and updates (Amberson et al., 2020).
Experience and Exposure	Lack of prior experience or exposure to disaster events (Labrgaue et al., 2018).	Mock drills, simulations and sharing experiences from other facilities (Labrague et al., 2018)
Role Clarity	Lack of clarity about nurses' role during disasters (Grochtdreis et al., 2016).	Clearly defining and communicating roles (Grochtdreis et al., 2016).

2.6.2 Recognition of the Significance of Disaster Nursing Competencies

The literature consistently indicates that registered nurses universally acknowledge the critical importance of disaster nursing competencies in enhancing their preparedness for managing disaster situations. This collective recognition serves to underscore the imperative nature of disaster nursing education and training. Nurses' recognition of the importance of disaster nursing competencies is often influenced by their experiences with actual disasters, such as the COVID-19 pandemic (Karnjus et al., 2021). The COVID-19 pandemic is a prominent disaster event, and it is mentioned explicitly in the literature as a context that highlights the importance of disaster nursing competencies.

2.6.3 Heterogeneous Levels of Preparedness

It is discernible from the research corpus that nurses exhibit varying degrees of readiness for disaster management (Amberson et al., 2020; Martono et al., 2019; Shabbir et al., 2017; Tzeng et al., 2016). Although they endorse the value of disaster nursing competencies, empirical findings underscore their frequent deficiency in essential proficiencies pertinent to disaster preparedness. These competencies include but are not limited to disaster planning, the implementation of prescribed guidelines, and adept patient assessment during exigent circumstances.

2.6.4 Educational Imperatives and Integration of Training Modalities

A prevailing theme that emerges from the studies is the paramount importance of educational imperatives and innovative approaches to training in disaster nursing preparedness. There is a consensus across the research that integrating disaster management content into nursing education programs is imperative (Al Harthi et al., 2020; Grochtdreis et al, 2016). This integration is exemplified by educational interventions such as those demonstrated by Amberson et al., (2020), highlighting the efficacy of tailored training in improving nurses' preparedness levels.

Furthermore, the studies collectively endorse the innovative approach of seamlessly integrating disaster preparedness education into the daily professional routines of nurses (Amberson et al., 2020). This holistic and practical method not only fosters enhanced preparedness levels among nurses but also offers a replicable template that can be readily adapted across diverse healthcare settings. It emphasises the need for a comprehensive and innovative approach to disaster nursing education and training that aligns with nurses' daily professional routines.

2.6.5 Strategies for Strengthening Disaster Nursing Readiness in Long-Term Care

Facilities

From the reviewed studies, various best practices and interventions have been proposed to enhance disaster nursing preparedness, particularly in the context of long-term care facilities. These practices will be explored, assessed for their effectiveness, discussed for their relevance, and presented in Table 2. 10.

Table 2. 10

Interventions to Bolster Disaster Nursing Preparedness in Long-Term Care Settings

	Interventions	Effectiveness	Relevance
Tailored Training and Continuous Education	Continuous training tailored to long-term care challenges. (Karnjus et al., 2021; Martono et al., 2019)	Amberson et al., (2020) found that integrating disaster preparedness education improved preparedness among nurses.	For LTCFs with vulnerable populations, tailored training is crucial (Guddo, 2020).
Utilising Pre-existing Communication Channels	Use established communication channels. (Amberson et al. 2020)	Deemed successful in the study; addressed obstacles and improved professional growth (Amberson et al., 2020)	Effective communication is critical in LTCFs where timely decisions can impact patient outcomes (Plagg et al., 2020)
Mock drills and Simulations	Regular mock drills and simulations (Labrague et al., 2018)	Seen as effective ways to prepare nurses (Labrague et al., 2018))	Simulations bridge the experience gap in LTCFs, ensuring staff readiness (Pierce et al., 2017)
Incorporation of Disaster Preparedness in Nursing Curricula	Integrate disaster nursing in education programs (Al Harthi et al., 2020; Grochtdreis et al., 2016).	Development of continuous education and training was recommended. (Al Harthi et al. 2020)	Having staff educated from the outset enhances facilities' readiness (Al Harthi et al., 2020; Amberson et al., 2020)
Clearly Defined Roles and Responsibilities	Define roles and responsibilities clearly. (Grochtdreis et al. 2016)	Leads to a coordinated and efficient response (Grochtdreis et al., 2016)	For best patient outcomes in healthcare facilities, clear roles are crucial for disaster management (Grochtdreis et al., 2016).

Improving disaster nursing preparedness in long-term care settings is a multifaceted challenge. The reviewed studies offer a range of best practices and interventions, from tailored training to clearly defines roles and responsibilities. Implementing these measures, considering the unique characteristics of long-term care facilities, can significantly bolster disaster readiness and ensure that both staff and residents are as safe as possible during emergencies.

In conclusion, addressing these themes and implementing best practices, especially in long-term care facilities, can substantially improve disaster readiness, ensuring the safety of both medical staff and patients during emergencies.

2.7 Methodological Considerations: Addressing Research Gaps

In the context of the prevailing literature, which predominantly comprises systematic reviews, cohort studies, and cross-sectional studies, the deliberate choice of employing an exploratory descriptive qualitative (EDQ) approach for this research is both purposeful and well-justified. The rationale for adopting an EDQ approach is deeply rooted in the unique nature of the research questions and the insights sought in this study.

Notably, systematic reviews, cohort studies, and cross-sectional studies have made substantial contributions to comprehending disaster risk awareness, preparedness, and management in healthcare settings. However, these studies typically concentrate on quantitative data and provide a broad overview of the subject. What is conspicuously lacking is a wealth of in-depth, context-specific insights concerning the perceptions, experiences, and decision-making processes of nurses within long-term care facilities during disaster occurrences. An EDQ approach is ideally suited to rectify this gap by meticulously exploring these nuanced aspects (Hunter et al., 2019).

2.7.1 Holistic Understanding

By employing an EDQ approach, this study aspires to provide a holistic comprehension of nurses' perceptions regarding disaster risk awareness and disaster nursing preparedness and management. This approach allows for the collection of copious qualitative data that can unearth unforeseen themes, thereby furnishing a more comprehensive perspective on the research topic (Sandelowski, 2004).

2.7.2 Filling the Qualitative Gap

The decision to opt for an EDQ approach is predicated on the intention to complement and augment the existing body of quantitative evidence. It serves as an indispensable counterpart to quantitative research, ensuring that both the quantitative and qualitative dimensions of the topic are thoroughly explored. This not only enriches the overall understanding but also confers depth and significance upon quantitative findings (Liang et al., 2021).

2.7.3 The Context of Malta

It is worth noting that the choice of an EDQ approach is not only driven by the unique nature of the research questions but also by the specific context in which this study is situated — Malta. While the existing literature globally comprises systematic reviews, cohort studies, and cross-sectional studies in the field of disaster nursing preparedness and management, the local context in Malta may not have a well-established subject of study on this matter. While there may be limited local data on this topic, the global body of knowledge can be drawn upon to inform the study. The use of an EDQ approach allows for the integration of global best practices and experiences while tailoring the research to the specific circumstances and needs of Malta's healthcare system. Moreover, the EDQ approach is particularly valuable in a context like Malta because it enables the study to be closely aligned with the unique

characteristics of the local healthcare system, the experiences of Maltese nurses, and the specific challenges faced in long-term care facilities during disasters. This approach can yield insights that are directly relevant to the Maltese context, facilitating the development of tailored disaster preparedness and management strategies.

Malta has experienced its fair share of disasters throughout history, including wars, acts of terrorism, earthquakes, poverty, flooding, pestilences, famines, and hurricanes (Bonello, 2022). More than 3,500 articles and points of reference were gathered in the recent work by Main et al. (2022), which led to the creation of the first multi-hazard historical catalogue for Malta. The authors have thus discovered at least 1,550 hazardous occurrences that involved intense geophysical, geomorphological, and climatic circumstances and led to at least 662 fatalities. A summary of district-by-district risk exposure in Malta and historical occurrence records is provided in Figure 2.

2. Main et al. (2022) paper targets and solves important knowledge and comprehension gaps in environmental extremes and their long-term effects in order to inform the creation of disaster risk reduction policies in Malta that are both evidence-based and accessible to the general people.

Figure 2. 2

The Hazard Exposure in each District of Malta and The Historical Records of Incidents (Main et al., 2022, p. 613)

	<i>n</i>	Gozo and Comino	Northern	Northern Harbour	Western	Southern Harbour	South-eastern
Earthquake	717	✓	✓	✓	✓	✓	✓
Tsunami	16	✓	✓	✓		✓	✓
Tsunami/Seiche	2	✓	✓	✓		✓	✓
Volcanic Ash	11	✓	✓	✓	✓	✓	✓
Volcanic Eruption	1	✓	✓				
Ground Collapse	66	✓	✓		✓		✓
Coastal Erosion	9	✓	✓	✓	✓	✓	✓
Mass Movement	87	✓	✓		✓	✓	✓
Seiche	22		✓	✓			✓
Waterspout	18	✓	✓	✓		✓	✓
Tornado	6			✓	✓		✓
Whirlwind	5			✓		✓	✓
Tornado/Whirlwind	1		✓		✓		
Medicane	4	✓	✓	✓	✓	✓	✓
Strong Winds	95	✓	✓	✓	✓	✓	✓
Storm	171	✓	✓	✓	✓	✓	✓
Extreme Temperatures	65	✓	✓	✓	✓	✓	✓
Hailstorm	48	✓	✓	✓	✓	✓	✓
Snowfall	10		✓		✓		
Dust/Sandstorm	9	✓	✓	✓	✓	✓	✓
Flooding	163	✓	✓	✓	✓	✓	✓
Drought	24	✓	✓		✓		✓

In summary, the EDQ approach is not merely a methodological choice but a strategic one, consciously selected to bridge the gap in existing research, provide holistic insights, and accommodate the specific context of Malta. This research thus adopts a robust and context-sensitive methodological framework that holds the potential to enrich the understanding of disaster risk management in healthcare settings while offering practical implications for both Malta and the broader healthcare community.

2.8 Conclusion

This chapter delineates the primary themes emanating from the scholarly discourse focused on the examination of nurses' perceptions regarding disaster risk awareness and disaster nursing preparedness and management within long-term care facilities. In examining these studies collectively, several key themes emerge. First,

while nurses often recognise the importance of disaster preparedness, there exists a significant gap in their actual preparedness, both in terms of training and practical application. Second, while there is a consensus on the crucial role of nurses during disasters, there is a clear need for more structured guidelines and training programmes to better define and prepare nurses for these roles. Lastly, while various studies touched upon the perceptions and attitudes of healthcare professionals towards disaster preparedness, only the study by Karnjus et al. (2021) explicitly highlighted the perceptions of nurses in long-term care facilities. The findings from these studies underscore the importance of enhancing training, addressing perceived preparedness gaps, and clarifying roles, especially in specialised care settings like long-term care facilities. LTCFs, given their unique vulnerabilities, require particular attention in disaster preparedness strategies. They must juggle the standard responsibilities of disaster management with the distinct needs of elderly and chronically ill residents. The studies reviewed highlight the importance of recognising these nuances and tailoring disaster preparedness strategies accordingly. Future research should address these gaps, exploring the best methods for effective disaster preparedness in nursing, especially in long-term care settings.

Potential biases were scrutinised, attributable to methodological constraints inherent in the sources accessed.

A notable limitation of this literary exploration was the scant literature exclusively centring on disaster nursing preparedness and management in long-term care facilities. Moreover, the author concedes that confining the review to solely English-published works may have inadvertently overlooked pertinent contributions documented in other languages.

In sum, the chapter has intricately woven together themes and findings, setting the stage for a deeper methodological exploration in the succeeding chapter, all within the overarching objective of bolstering LTCFs' disaster nursing preparedness and management in the distinct context of Malta.

CHAPTER 3 – METHODOLOGY

This chapter provides a narrative of the method and steps taken to achieve the research study's aims and objectives. It will provide an overview of the research design, as well as the sources from where the researcher has obtained the data and the suitable approach used to analyse the collected data. Lastly, this chapter will examine the study's trustworthiness to ensure study quality and ethical concerns.

3.1 Research Aims and Questions

This research study will explore nurses' perceptions of disaster nursing in Malta, including their awareness of potential hazards and preparedness and management for disaster nursing in a long-term care facility. It will also explore what nurses may observe as their role in disaster and emergency circumstances.

The research questions are: (1) How do nurses perceive disasters in Malta, and what are their perspectives on disaster nursing preparedness and management? (2) In the event of a disaster within a long-term care facility, what roles do nurses envision for themselves?

3.2 The Research Approach

An exploratory-descriptive qualitative approach was used in this research study to understand the complexities of disaster nursing. Through this approach, the researcher was able to capture the initial insights of charge nurses about disaster nursing, disaster preparedness, and management, and understood what they perceive as their role in disaster nursing in a long-term care facility in Malta.

Hunter and colleagues (2019) introduce exploratory-descriptive qualitative (EDQ) research as a unique approach to research that aims to explore and describe a phenomenon or topic of interest in-depth that hasn't been thoroughly explored. It is a

qualitative research method that emphasises understanding and interpreting the individuals' or groups' subjective experiences and perspectives.

3.3 The Philosophical Foundations and Research Paradigm

In underpinning the methodology of this research study, it is imperative to acknowledge the research paradigm that anchors the approach. This research study is rooted in the Interpretivist paradigm. Interpretivist epistemology asserts that reality and knowledge are constructed based on human actions and interactions (Crotty, 1998). Within this study's context, the emphasis on understanding nurses' perceptions and the nuances of their experiences in disaster nursing aligns seamlessly with the interpretivist paradigm, which values the subjective standpoint and the complexity of human experience.

Delineating the philosophical foundations provides clarity to the study's structure and logic. Firstly, the ontological stance, grounded in Relativism, acknowledges that reality is subjective. It asserts that there can be multiple realities, each constructed based on individual perceptions (Berger & Luckmann, 1966). Given that the research study seeks to unveil various nurses' perceptions of disaster nursing in Malta, this relativistic stance facilitates the exploration of these diverse constructed realities.

In terms of epistemology, this research is nested within Subjectivism. The value and weight given to individual interpretations and narratives in the study resonate with the epistemological understanding that knowledge is constructed through individual experiences and insights (Guba & Lincoln, 1994). Hence, the narratives and perceptions of charge nurses concerning disaster nursing in Malta serve as valid constructs of knowledge, offering a subjective lens through which the phenomenon is viewed.

The methodology is decidedly Qualitative, particularly following an exploratory-descriptive qualitative approach. This choice is justified as qualitative methodologies, by their very nature, seek to provide an intricate understanding of a phenomenon through tools like interviews or observations, aiming to capture the quintessence of participants' experiences (Denzin & Lincoln, 2018). Especially when information is scant regarding a particular phenomenon, as in the case of disaster nursing in Malta, qualitative studies provide a rich tapestry of descriptions and narratives, shedding light on the complexities inherent (Sandelowski, 2004).

Lastly, the research study's axiological underpinning is intrinsically Value-laden. Every stage of the research process, from inquiry to outcome, is imbued with values. By seeking meaning, purpose, and deeper insights rather than mere facts, the study inherently aligns with the axiological position that research processes and outcomes cannot be value-neutral (Mertens, 2005).

3.4 The Research Design

Creswell (2014) elaborates on research design as an exhaustive research journey, starting from conceptualizing a problem, progressing through the formulation of research questions, and extending to the processes of data collection, analysis, and the composition of the final report. Punch (2013) asserts that research design constitutes the comprehensive framework or architecture that directs the researcher in executing a study. This design includes the array of strategies, methodologies, and processes utilised for gathering and analysing data, all aimed at addressing the research questions or fulfilling the objectives of the research study.

EDQ research is an appropriate design when minimal or no information on a phenomenon is available (Hunter et al., 2019). Since disaster nursing in Malta has not been extensively studied, there is a need for exploratory and qualitative studies. This

design allowed the researcher to describe and explore the participants' perceived understanding of disaster nursing, disaster preparedness, and management, as well as their role as nurses in an effort to achieve disaster preparedness and resilience in a long-term care facility in Malta.

3.4.1 Exploratory

This research design is exploratory in nature, meaning that it is used when there is limited existing knowledge or understanding of the topic. This design is founded on the premise that exploration is necessary for various reasons, such as the absence of specific measures or instruments, the uncharted nature of the variables, or the lack of an existing theoretical or guiding framework, as noted by Creswell & Clark (2013). Exploratory research can assist in bridging a knowledge gap concerning a new or understudied subject, or it can help researchers approach the subject from a different point of view to produce new and emerging insights (Leavy, 2022). It allows researchers to gain insights, develop hypotheses, and identify relevant variables or factors that can later be studied in more depth using quantitative or mixed methods (Creswell, 2013). It stimulates the researcher's interest and demands for deeper understanding. It allows researchers to gain a preliminary understanding of the topic, identify potential patterns or relationships, and inform future research designs (Polit & Beck, 2012). In this research study, the researcher explored the view of charge nurses towards disasters in Malta and disaster nursing, disaster preparedness, and management.

3.4.2 Descriptive

According to Polit and Beck (2017), the goal of descriptive studies is to observe, describe, and record details of a scenario as they naturally occur. Leavy (2022) concurs that it is helpful when researchers wish to describe people, groups, activities, events, or circumstances. The aim is to provide a detailed description of the phenomenon being

studied, including the experiences, perspectives, and behaviours of participants. It can also occasionally act as a foundation for developing hypotheses or theories (Polit & Beck, 2017). In this research study, the researcher was particularly interested in charge nurses' descriptions of their roles in disaster nursing and their learning experiences related to catastrophes in Malta and disaster nursing, disaster preparedness, and management.

3.4.3 *Qualitative*

Qualitative description design typically involves collecting and analysing non-numerical data, such as interviews, observations, or documents. Researchers seek to identify common patterns, themes, or categories within the data to describe the phenomenon accurately. The findings are usually presented through rich descriptions, quotes, and excerpts that capture the essence of the participants' experiences or the phenomenon itself (Caelli, et al., 2003).

3.4.3.1 Interpretive Nature of Qualitative Analysis. It is important to note, as Sandelowski (2010) emphasised, that qualitative description is not devoid of interpretation. Revisiting her earlier work, Sandelowski clarified a common misconception that qualitative description requires no interpretation of data. In contrast, she posited that researchers must engage in analysis and interpretation to “make something of their data” (Sandelowski, 2010, p. 79). This interpretive process is integral to thematic analysis, where the researcher's insights and interpretations play a crucial role in identifying and understanding themes that emerge from the data.

Using broad research questions from qualitative investigations, it is feasible to give a comprehensive analysis and detailed description of a new scenario (Polit & Beck, 2017). Particularly when there is little information available about a certain phenomenon, qualitative studies provide a rich description of it (Polit & Beck, 2017). Sandelowski (2004), emphasises the importance of providing a comprehensive and detailed account of the research participants' experiences and perspectives. This approach allows researchers to capture the phenomenon's complexity and nuances, without imposing preconceived categories or theoretical frameworks (Sandelowski, 2004).

3.5 Inductive Research Approach

In complementing the exploratory, descriptive, qualitative nature of this research study, an inductive research approach was employed. This approach is pivotal in qualitative research, especially in this research study where new insights and theoretical understanding are developed directly from the data rather than testing pre-existing hypotheses (Thomas, 2006).

3.5.1 Essence of the Inductive Approach

The inductive approach is characterised by its flexibility and openness to emerging patterns and themes (Patton, 2015). This aligns with the Interpretivist paradigm of the research study, allowing for a deeper exploration and understanding of the subjective experiences and perceptions of nurses in the context of disaster nursing in Malta. The inductive methodology is integral in recognizing and interpreting these emerging patterns, offering a grounded perspective that is directly informed by the data (Braun & Clarke, 2006).

3.5.2 Role in Thematic Analysis

This approach played a crucial role in the thematic analysis process, as outlined by Braun and Clarke (2006). It facilitated the identification of themes and patterns not predetermined or hypothesised but rather emerging organically from the narratives and perspectives of the participants. This is particularly relevant in the context of the research study, where the experiences and perceptions of charge nurses regarding disaster nursing were diverse and context-specific (Sandelowski, 2000).

3.5.3 Alignment with Research Objectives

The inductive approach was instrumental in achieving the research study's aims and objectives. By allowing themes and theoretical insights to emerge from the data, the research was able to capture a rich, nuanced understanding of disaster nursing in Malta. This approach ensured that the findings were rooted in the real-life experiences and perceptions of the participants, thereby offering valuable, context-specific insights (Creswell & Poth, 2018).

3.5.4 The Emergence of Theoretical Insights in Interpretation

While the research study did not commence with a predefined theoretical framework, the inductive approach facilitated the emergence of theoretical insights

during the data interpretation phase. Theories such as Kolb's Experiential Learning Theory (1984), Hofstede's Cultural Dimensions Theory (1984), and Renn's Risk Management Theories (2008) were not used to guide data collection or initial analysis. Instead, they became instrumental in the discussion chapter, providing a deeper interpretive lens to understand and contextualise the findings. This highlights the dynamic and responsive nature of qualitative research, where theoretical frameworks can emerge as a tool for deeper understanding and discussion of the data, rather than as a guiding force from the outset (Charmaz, 2006).

3.6 The Setting

The current research study was conducted in one of the largest state-owned facilities for long-term care in the Maltese islands. It offers a wide range of medical and nursing care services and various allied healthcare services for the elderly. Recently, the facility underwent renovation and expansion to accommodate the aging population's constant growth and to improve services. The new blocks which opened in 2020 and are managed by a private company were not included in the study since one of the criteria was participants working in the LTC for more than 3 years. Hence, the research study only covered charge nurses working in the old LTC buildings, where 65 charge nurses were employed between the data collection dates of January and May 2023.

3.7 The Sample

Convenience sampling was used on the basis of the following criteria: charge nurses who are (a) employed at a long-term care facility and (b) have been working in the institution for more than three years. The scope of the research is limited to charge nurses in LTC. Charge nurses were chosen as the representatives of the majority of the nursing staff, as they are also responsible for the operation of the nursing unit during disasters. These charge nurses were chosen with the hope that they would contribute

unique and rich information on the phenomenon being studied based on their position of managing the ward. In line with the findings of Karnjus and colleagues (2021), leadership-level nurse managers in nursing homes demonstrate greater awareness of the proactive role and responsibilities of nurses in disaster management. Further, Sandelowski (2000) recommended that a researcher must make an effort to identify participants who can contribute pertinent information to answer the research study's objectives. The perceived disaster awareness and preparedness of these charge nurses may help to clarify how long-term care facility nurses generally view disaster nursing, disaster preparedness, and management. Omona (2013) notes that in qualitative research, where the aim is often not to generalise to a broader population but rather to gain deep insights into specific phenomena, individuals, or events, the researcher intentionally selects individuals, groups, and settings that can provide the most comprehensive understanding of the topic. In this case, "Information-rich" individuals, groups, and environments are taken into consideration for selection (Patton, 1990, p. 169). Convenience sampling was utilised since the sampled charge nurses were geographically available and they matched the profile of respondents the researcher wanted to analyse. Moreover, in exploratory-descriptive qualitative design, the researcher is in the initial stage of gathering a preliminary understanding of a phenomenon from a small group of participants (Ranse et al., 2012). Convenience sampling can provide valuable insights and help refine the research design before conducting a larger, more representative study (Hassan, 2022).

In qualitative investigations where the sample is homogeneous, Kuzel (1992) posits that a cohort of 6 to 8 participants is often adequate for a robust understanding. For a more comprehensive insight, Kuzel recommends a sample size ranging between 12 to 20 individuals. Conversely, when the research intent revolves around delving into

the core essence of an experience, Morse (1994) contends that a minimum of six participants is requisite. Nevertheless, the objective of qualitative research is to learn as much as possible about the phenomenon being studied, the notion of saturation was used to help determine the number of participants (Creswell & Poth, 2018). Out of the ten people who were invited, eight were interviewed until data saturation was reached. Saturation was achieved when no new data emerged.

3.8 Research Instrument

Semi-structured in-depth interviews were utilised in this research study to provide participants the freedom to describe their insights on disaster nursing, disaster preparedness, and management as well as what they perceived as their role in disaster nursing in LTC. Interviews have greater chances of obtaining in-depth information since the researcher can directly inquire to explore participants' views. Gill et al. (2008) suggest that interviews are particularly appropriate in scenarios where there is limited knowledge about the research topic, or when detailed insights from specific participants are sought. Although Sandelowski (2000) acknowledges that observation of certain phenomena and focus groups may be utilised to gather data in descriptive qualitative studies, semi-structured interviews are typically employed. On the other hand, Stebbins (2001) contends that while investigating by observation is valuable, investigating through the use of interviews is more intensive. Each interview was conducted independently under the researcher's direction. A total of eight charge nurses were individually interviewed face-to-face, catering to their schedules and availability (Hunter et al., 2019).

3.9 Data Collection Process

Given the focus of this approach and qualitative research methodologies, face-to-face individual interviews were used for data collection. Data were therefore gathered through face-to-face semi-structured in-depth interviews using open-ended questions. This allowed the researcher to gain a thorough understanding of how the participants viewed disaster nursing.

The gatekeeper provided the research study's information sheet to potential participants through email and a follow-up invitation via telephone was done. By acting as a physical and interpersonal link between the researcher and the subject of the research, the gatekeeper aids in the facilitation of the research process (Clark, 2011 as cited in Flick, 2018). After responding to the inquiry and consenting to take part in the study, the potential respondent was contacted to arrange a mutually convenient time and location for the interview. Every attempt was made to ensure that the participant's participation in the study did not interfere with their regular activities.

3.9.1 Semi-structured Interviews

Open-ended, semi-structured interviews were used to allow exploration of the complex nature of disaster nursing by allowing participants to express their views and experiences freely (Polit & Beck, 2004) which can help the researcher to generate rich data and provide context and significance to the research findings (Kalu & Bwalya, 2017). Generally, semi-structured interviews provide a balance between structure and flexibility, allowing the researcher to explore the research topic in depth while remaining open to unexpected findings. They support the collection of rich qualitative data, encourage participant engagement, facilitate contextual exploration, and enable an iterative research approach. Eligible participants who voluntarily agreed to participate

were interviewed for approximately twenty minutes to twenty-five minutes in length at a place and at a time most convenient for them. Allowing participants to choose the location of the interview can increase participants' comfort and trust and can improve the quality and depth of the data collected (Ecker, 2017; Elwood & Martin, 2000). Most interviews were carried out inside charge nurses' ward offices while one participant opted to be interviewed in the ward's dining area of the facility. Creswell and Creswell (2018) observe that qualitative researchers typically engage in data gathering directly within the environments where participants operate and interact, thus capturing them in their authentic settings. By speaking with the participants face-to-face and observing their behaviour in their natural surroundings, the researcher can better grasp their experiences in these situations (Creswell & Creswell, 2018).

However, it is crucial to acknowledge the inherent weaknesses in the interview method. One potential limitation of conducting interviews, particularly semi-structured ones, is the risk of interviewer bias. Kvale (1996) pointed out that the presence and actions of the interviewer can influence the responses of participants. The phrasing of questions, non-verbal cues, or even inadvertent leading by the interviewer can shape the nature of the data collected. This potential for bias, in turn, may affect the accuracy and validity of the findings. While using a predefined set of questions in the interview guide can offer structure and consistency, it does not entirely eliminate the risk of interviewer-induced effects. Being aware of this potential limitation, it becomes essential for the researcher to approach the interview process with self-awareness and reflexivity, ensuring that they are not unduly influencing participants' responses or steering the conversation in a manner that could compromise the authenticity of the data (Brinkmann & Kvale, 2015). By recognising and mitigating the risk of interviewer bias,

researchers can aim to enhance the validity and credibility of their findings derived from interview data.

Prior to obtaining written, informed consent, the study's aims and interview procedures were explained (see Appendix 2A and Appendix 2B). The consent was signed at the start of the interview in the presence of the researcher. Participants were informed that they could withdraw their involvement at any time during the discussion and that doing so would have no negative repercussions on them.

Interview guides were used to facilitate discussion and to serve as a framework to ensure consistency and focus during the interview process (see Appendix 3). By using a predefined set of questions, the researcher ensured that all participants were asked the same core questions, creating a level playing field for data collection and analysis. While offering structure, interview guides also give room for flexibility. During the interview, the researcher modified and changed questions as needed to follow up on interesting comments, explore unexpected areas, or take into account the distinct viewpoints of the participants. This adaptability enabled the researcher to optimise the value of the interview and gain deeper insights. Participants were asked to share information about the number of years they had been working at the research site and their role within the facility. While qualitative research primarily focuses on understanding participants' perceptions, this demographic data provided a snapshot of the composition of the sampled population to countenance a more accurate reflection of the population and enhanced the generalisability of the findings (Denzin & Lincoln, 2018). In particular, participants' number of experience or expertise as charge nurses in LTC can shape their perspectives or interactions. With the participants' written consent,

interviews were conducted in English and taped using audio recording equipment that enables precise and verbatim transcription (Whiting, 2008).

3.9.2 Pilot Inquiry for the Interview Guide

The researcher can refine and enhance the overall interview process by piloting the interview guide (Creswell and Poth, 2018 p. 281). Before conducting the actual data collection, the interview guide questions and structures were tested to ensure the research questions' requirements. It helps to identify any problems with the instrument or any issues that might impact the quality of the data gathered (Cormack, 2000). One senior nursing manager and one charge nurse voluntarily agreed to do individual interviews. The pilot interviews revealed that there were no changes needed as the interview guide covers all the necessary aspects of the research questions. The pilot interviews lasted fifteen to thirty minutes on average. Data from the participants in the pilot trial were not used in the main investigation because they were ineligible to take part.

3.10 Trustworthiness

When addressing rigor, EDQ research uses the Whitemore et al. (2001) paradigm, taking into account the principles of Sandelowski (1993) and Stebbins (2001). Whitemore et al. (2001) suggested that EDQ research emphasises the four key principles: credibility, authenticity, criticality, and integrity. Whereby it is also important to take reflexivity into account (Hunter et al., 2019).

3.10.1 Credibility

To establish the credibility of EDQ research, it's essential to demonstrate that the findings are reliable, relevant, and align with the researcher's intended reality as inferred from the perspectives of the data collected (Patton, 2002). This is amplified when the

researcher would talk about and decipher their experiences (Koch, 2006). Moreover, Ryan, Coughlan, and Cronin (2007) suggest that evidencing prolonged engagement, detailed observation, and maintaining audit trails also strengthens this aspect.

Over the course of two months of data collection, the researcher was able to immerse herself in the site of the study long enough to build trust and rapport with participants which increased the likelihood of obtaining insightful data. The researcher actively engaged in interviews by showing compassion, active listening, and a sincere interest in the participants' descriptions. The researcher continuously highlighted the importance and relevance of the research to keep participants engaged and motivated. Moreover, persistent observation during the interviews allowed the researcher to capture the routines, nuances, and thorough viewpoints of the charge nurses in disaster nursing. An audit trail was also developed by keeping meticulous records of every step of the research process, including data collection, analysis, and interpretation. This documentation has timestamps, explanations of the actions conducted, and any changes made during the research. The following is an example of the researcher's audit trail:

Date: 8th July 2022

- *Conducted initial literature review on disaster nursing, disasters in Malta, long-term care facilities, and disaster preparedness and management.*
- *Developed research questions and objectives for the study.*

Another way to improve the research study's credibility is through triangulation (Patton, 2015). The interview data were triangulated with other sources such as semi-structured individual in-depth interviews and existing literature. The researcher conducted a literature review that familiarised herself with the content of the phenomenon under investigation and collected data by means of face-to-face semi-structured interviews to obtain in-depth information. When the data were compared, an iterative process resulted in a deeper examination of the phenomena (Carter et al.,

2014). The individual perspectives and experiences of eight charge nurses with varying levels of experience were explored, creating a rich portrait of their perspectives on disaster nursing, disaster preparedness, and disaster management. This allowed the researcher to cross-check and compare different sources of data, which helped in providing a more comprehensive understanding of the research topic.

Furthermore, the researcher provided a good description of the participants (Section 4.1) and setting that helped in expressing actual circumstances that have been studied and to some degree the contexts that surrounded it. The researcher ensured the validity of the respondents' accounts by providing comprehensive descriptions, quotations, and examples pertaining to their experiences with disasters in Malta. This approach was adopted to permit readers to discern whether the study genuinely encapsulates the participants' perspectives on disaster nursing.

Moreover, the researcher provided thorough documentation and ensured that the study design, data collection process, and data analysis are consistent throughout the study. By providing such a detailed account, the researcher makes it possible for readers to apply information to different contexts and assess whether the findings may be applied to other settings or groups due to shared features (Creswell 2013, p 274).

3.10.2 Authenticity

The description of the research that represents the connotations and experiences that are lived and perceived by the participants is known as authenticity and is strongly related to credibility in validity (Sandelowski, 1986). The researcher ensured authenticity by making the participants fully informed of the researcher's processes before providing consent and incorporating participant-researcher cooperation (Amin et al., 2020). Additionally, giving participants the autonomy to communicate, listening to

their voices, and specifically exploring their perceptions was achieved through data collection and analysis. (Milne and Oberle, 2005).

3.10.3 Criticality and Integrity

Maintaining a rigorous emphasis on integrity and critical evaluation is imperative, given the myriad ways in which a researcher's interpretations, conceptions, and foundational knowledge can influence the investigative process (Whittemore et al., 2001). This emphasis is shaped by practices of reflexivity, open-ended exploration, and meticulous scrutiny of every facet of the research undertaking (Marshall, 1990).

3.10.3.1 Reflexivity. In qualitative research, reflexivity is particularly essential as it helps the researchers to be more aware of their own biases, limitations, and assumptions, ultimately leading to more rigorous and ethical research practices (Creswell, 2013). The researcher engaged in ongoing self-reflection throughout the research process by being aware of her own biases, assumptions, and preconceptions and considering how these might influence the research (Polit and Beck, 2012). As a charge nurse of a long-term care facility with knowledge and experience in disaster nursing abroad, it was necessary for the interviewer to recognise and critically reflect on her own values, biases, and assumptions. A reflective diary was kept by the researcher during the study to document her own thoughts, feelings, and experiences. The following is an example from the researcher's reflexive diary:

Date: 6 January 2023.

Today marked the beginning of my journey as a researcher in the field of disaster nursing and disaster preparedness and management. As I embark on this research endeavour, I am filled with both excitement and a sense of responsibility. The importance of this field cannot be overstated, as disasters continue to wreak havoc worldwide, causing immense suffering and loss of life. Throughout my career, I have witnessed the devastating impact of various disasters on communities, both natural and man-made. These experiences have shaped my passion for improving disaster response and healthcare outcomes during such critical times. Now, armed with my research skills and determination, I aim to contribute to the body of knowledge in this area. Today, I did a

pilot interview to one of the senior nursing managers in a long-term care facility to gain a deeper understanding of their operations and to identify any issues with the interview guide. Knowing how committed they are in the safety of their residents and their tireless efforts to mitigate the effects of disasters left a profound impact on me. As I reflected on the conversations and observations of the day, several key themes emerged. One prominent theme was the critical role of nursing in disaster management. Nurses are often the first point of contact for affected individuals, providing immediate care and support. Their expertise in triaging patients, assessing needs, and coordinating resources is invaluable. However, it became evident that there is a need for more specialised training and education in disaster nursing.

3.10.3.2 Open Inquiry. Open inquiry involves maintaining an open and unbiased stance throughout the research process. It entails embracing diverse perspectives, ideas, and interpretations without prematurely dismissing or favouring any particular viewpoint (Johnson, 1999 as cited in Sandelowski, 2001). The researcher approached her research with curiosity, intellectual flexibility, and a readiness to question her own presumptions by using open inquiry. Open inquiry allowed the researcher to evaluate various viewpoints, potential solutions, and the complexity of disaster nursing. A comprehensive and insightful analysis was provided (Chapter 4) to enhance the validity of the research study.

3.10.3.3 Critical analysis. Critical analysis involves a rigorous examination and evaluation of all aspects of the research process, including data collection, analysis, and interpretation (Sandelowski, 2001). To enhance criticality and integrity, the researcher obtained input and feedback from her supervisor who helped her identify flaws or limitations in research design, methodology, or analysis that she may have overlooked. By adopting a critical stance, the researcher has identified potential biases, limitations, and alternative explanations that might affect the validity of her research. The researcher also engaged herself with relevant literature, theories, and existing knowledge (Chapter 2 and Chapter 5) to situate the research findings within a broader context. Through this process, the researcher has strengthened the validity of her research by ensuring that her claims are well-supported, logical, and defensible.

3.11 Data Analysis

The research study employed thematic analysis to discern recurring themes in charge nurses' perceptions. This analytical approach was grounded in Braun & Clarke's (2006, p.87) six-step framework, which has been widely recognised for its clarity and

practicality in conducting thematic analysis (Braun & Clarke, 2019; Nowell et al., 2017; Maguire & Delahunt, 2017).

During the familiarisation phase, the researcher immersed herself in the data, meticulously reviewing interview transcripts multiple times to organise emergent categories. Ensuring participant confidentiality remained paramount, leading to necessary data anonymisation.

As the analysis progressed to initial coding, the researcher systematically categorised key phrases into themes by repeatedly examining the transcripts. Each text segment that bore relevance to the study's objectives was coded. This dynamic coding process meant that codes were routinely reassessed, revised, or even newly created as the researcher delved deeper into the data.

Upon closer inspection of the codes, distinct themes began to surface. A comprehensive overview of these themes can be found in Chapter 4.

Subsequently, during the theme review phase, these initial themes underwent refinement. Each theme was carefully assessed against the entirety of the data set to ensure it accurately captured the essence of the participants' perspectives.

Moving to the theme definition, the researcher sought to understand the nuances of each theme and their interconnections. This exploration led to the identification of three primary themes that collectively painted an overarching narrative. Figure 5. 1 visually encapsulates this through a thematic map, shedding light on nurses' perceptions of disaster preparedness.

Concluding the analysis, the compilation phase saw the integration of these analytical narratives with selected data excerpts. The resulting synthesis not only highlighted the chosen themes and emergent findings but also situated them within the context of the broader academic discourse.

3.12 Ethical Considerations

For the research to uphold the rights and dignity of participants, several ethical concerns were addressed throughout the research process, encompassing informed consent, the researcher-participant relationship, and confidentiality (Ignacio & Taylor, 2013).

3.12.1 Informed Consent

Informed consent, a safeguard for participant autonomy (Fouka & Mantzorou, 2011), was ensured by providing clear, concise information and consent forms. Participants fully comprehended the study's aims and implications before committing and were afforded the chance to pose questions prior to giving their consent.

3.12.2 Relationships between researchers and participants

It is vital to mitigate power imbalances between researchers and participants to avoid potential coercion (Ignacio & Taylor, 2013). The researcher ensured participants' rights to self-determination by allowing voluntary participation without obligation and ensuring equitable participant selection without discrimination. Possible distress was acknowledged, with participants given access to professional support from the Richmond Foundation (Appendix 4).

3.12.3 Privacy and Confidentiality

Maintaining privacy and anonymity establishes trust and safeguards participant welfare (Polit & Beck, 2013). Participants remained anonymous with data pseudonymised and securely stored. Access to data was limited to the researcher's supervisor and the examiners for the purpose of verification.

Overall, the permission to conduct this research study was granted by the chief executive officer and the medical superintendent of the study setting and the Faculty

Research Ethics Committee, and the University Research Ethics Committee (FHS-2022-00337 / see APPENDIX 1).

3.13 Conclusion

In conclusion, the research methodology produced an exploratory descriptive qualitative study. The three methods of inquiry used in the research study were a review of the relevant literature, a pilot study to improve the research instrument, and an in-depth semi-structured interview. These interviews enabled participants to share insights, with direct quotations enriching the data (Dahlberg et al., 2011). Subsequent chapters present the findings, delving into themes related to the current and future of disaster nursing in Malta.

CHAPTER 4 – FINDINGS

The primary aim of this research study was to investigate the perceptions of eight (8) participants concerning the disasters in Malta. Furthermore, the research study aimed to assess their awareness of disaster risk preparedness and management, in addition to examining their comprehension of the role of nurses in disasters and emergencies in a long-term care facility. Participant selection was based on predefined criteria, as detailed in the preceding chapter.

To ensure the preservation of participant confidentiality and to safeguard their real identities, the study employed unique code names, specifically CN1, CN2, CN3, CN4, CN5, CN6, CN7, and CN8, which differ from their actual names. These code names were utilised throughout the study to refer to the participants, thereby maintaining their anonymity through ethical research practices. Also, square brackets were used to present the findings in a way that accurately reflects the participants' responses while also making the transcript more readable and understandable.

4.1 Participants Description

The research study comprised eight participants, all of whom held the position of charge nurses within their respective wards. Findings from the study revealed that these participants had accumulated substantial experience, with their tenure at the facility spanning a range of 10 to 35 years. A summary of the results is displayed below (Table 4. 1). This duration of service was critical in the researcher's assessment of the participant's eligibility for inclusion in the study, as it not only gauged their level of experience but also ascertained whether their extended tenure at the facility had exposed them to the facility's disaster preparedness protocols.

The researcher established specific criteria for participant selection, requiring that the individuals selected must be charge nurses with a minimum of three years of service within the facility. These criteria were instrumental in providing the researcher with valuable insights into the participants' depth of experience and their familiarity with the facility's disaster preparedness measures. Despite the diverse range of experience levels among the participants, it was evident that their shared experiences held considerable similarities.

Table 4. 1

Characteristics of Research Study Participants (n = 8)

Length of employment (years)	<i>n</i>
5-10	2
11-15	1
16-20	3
21-25	0
26-30	1
30-35	1
Gender	<i>n</i>
Male	6
Female	2

4.2 Major Themes and Sub-themes

From the data acquired through the audiotape recorded, all the participants responded positively during the interview. Three major themes emerged which include: (1) *Disaster Risk Awareness*, (2) *Disaster Nursing Strategies*, and (3) *Strengthening Resilience*. These major themes produced two to three sub-themes that described the perceptions, experiences, and reflections on disaster preparedness and management in a long-term care facility (Table 4. 2).

Table 4. 2*Major Themes and Sub-themes.*

THEMES	SUB-THEMES
Disaster Risk Awareness	Experience with disasters Covid-19 Pandemic Cultural and Historical perspective
Disaster Nursing Strategies	Disaster Nursing roles Staff training and Education Communication
Strengthening Resilience	Risk assessment and Mitigation Collaborative Response Preparedness

4.2.1 Disaster Risk Awareness

In this initial theme, the researcher explores the comprehensive understanding held by nurses regarding potential natural and man-made disasters that could potentially affect their country and the specific area where their healthcare facility is situated. This understanding encompasses their ability to anticipate, plan for, respond to, and recover from such disasters. Within this overarching theme, three distinct sub-themes were identified: the first sub-theme explores participants' experiences with disasters within long-term care facilities and the context of Malta; the second sub-theme focuses on their experiences during the Coronavirus disease (COVID-19) pandemic; and the third sub-theme examines their consideration of cultural and historical factors.

4.2.1.1 Experience with Disasters. This sub-theme explores participants' personal experiences with disasters, which may shape their perceptions of disaster risk and preparedness. Their narratives provide valuable insights into the extent of their disaster awareness, often stemming from personal experiences. These experiences are multifaceted, spanning from childhood recollections to events encountered during their nursing careers.

The reminiscences of most participants harken back to their childhood, evoking memories of earlier encounters with disasters. For instance, CN2 recollects, “I remember [an] earthquake. I was a small boy... all the family went to Ta Qali, a big area, but nothing serious [disasters].” This illustrates a recurring theme of participants recalling early-life experiences with disasters, such as earthquakes, which served as formative events in their awareness.

Conversely, some participants reflect on their experiences within the nursing profession, recounting incidents they encountered during their tenure. CN6 shares a noteworthy incident involving an explosion on a ship at Malta's drydocks, vividly describing the emergency response and care provided during that critical event:

Once we had an explosion on a ship in Malta drydocks. I was working night [shift]. They opened a designated casualty ward, we received patients directly from where the tragedy happened and we did all the emergency care, which was a big one. (CN6)

This first-hand account underscores the significance of nurses' preparedness and adaptability during disaster situations, even within the context of a relatively small-scale disaster in Malta.

However, the narratives reveal a noteworthy trend wherein many participants predominantly recall fire-related incidents within their long-term care facility, indicating

a potential lack of exposure to diverse disaster scenarios. CN4, for instance, recalls an isolated fire incident, stating, “Once in a ward, which had a bit of fire, but it doesn’t happen very often. Once in a while and that was it.” Also, CN7 recounts, “I remember there was a fire in another ward that started from curtains, and they managed to take out [evacuate] the patients.” This limited awareness is also evident in their comments regarding preparedness for other types of disasters, such as earthquakes, which they perceive as less addressed, as CN6 remarks, “For fire, they [nurses] are prepared, I don’t think in other things they are. Maybe [there will be] an earthquake... you never know what might happen.”

Participants' accounts collectively convey a perception that significant disasters are infrequent occurrences in Malta. They point to the absence of major earthquakes, tsunamis, or volcanic eruptions in their collective memory:

“We are not used to having earthquakes and tsunamis. We are always talking about dementia but about this, I don’t feel we are prepared.” (CN 1)

“As far as I know we never had [major] disasters...” (CN, 3)

“Major disaster is not common. From time to time there will be earthquakes. But here in Malta, we do not have volcanoes [that will cause eruption/disaster].”
(CN 5).

“But as a national disaster, the only experience I have is the COVID Pandemic.”
(CN8)

This perspective on the rarity of major disasters can lead to a sense of complacency, where disaster preparedness measures may be disregarded or overlooked. Participants may underestimate potential risks and fail to fully appreciate the importance of proactive preparedness efforts.

Importantly, the absence of personal encounters with large-scale catastrophes raises concerns about the participant's ability to respond effectively in crises. CN6 aptly summarises this challenge, stating, “I don’t think we are prepared; the thing is not that we are not prepared. The thing is we never had it. So, we don’t know what to do. I think that is the major problem.”

While the participants' narratives touch upon various disaster types, it is noteworthy that a significant portion of their discussions revolves around the Coronavirus disease (COVID-19) pandemic, a topic that will be explored in greater detail in the subsequent subtheme.

4.2.1.2 COVID-19 Pandemic. Within this sub-theme, the impact of the COVID-19 pandemic on disaster risk awareness and healthcare practices is examined. Participants' views on how the pandemic influenced their preparedness efforts are highlighted. It unveils a remarkable contrast where, despite acknowledging their limited awareness of other disaster types, participants expressed a degree of competence in managing the COVID-19 pandemic. For instance, CN 2 encapsulates this sentiment by stating, “If you call it a disaster, the COVID, it was a headache... because of all the hassle... but we coped.”

CN 3 offers a reflective perspective on the pandemic, acknowledging the scarcity of initial information and preparedness, stating, “We have lack of information, we were not prepared. Nobody I think in the world is prepared for that [COVID]. However, we managed. After the vaccine was available, things were calmer.” Similarly, CN 6 underscores the pandemic's unforeseen nature, stating, “I don’t think we were prepared [COVID] actually. It all came on us you know, but I think we managed.”

These experiences during the COVID-19 pandemic underscore the significant contribution of first-hand exposure to disaster events in enhancing preparedness. CN6's

reflection is particularly noteworthy, emphasising the transformative effect of experiencing a disaster first-hand: “During the pandemic, I think things were quite managed because we got used to the things. It came on us... You have to go through it to see how people react.” This experience provides individuals with a pragmatic understanding of the chaos, challenges, and complexities that can unfold during crises.

Nurses' comprehension and awareness of the potential risks they might encounter, as well as the potential consequences of those risks, play a crucial role in their capacity to effectively prepare for and respond to disasters or emergencies.

4.2.1.3 Cultural and Historical Perspective. This sub-theme explores the role of culture and historical context in shaping disaster risk awareness. Participants' insights on how cultural factors and historical events impact their understanding of disasters are discussed. Culture and history play a significant role in shaping how nurses perceive and respond to disasters. Traditional knowledge that has been passed down from generation to generation often holds valuable insights on how to navigate natural disasters. For instance, CN1 recalled a childhood experience during a major earthquake: “When I was a child, there was a big earthquake, my father told us to stay under the table, but imagine here if it happens, how you have to explain it to a demented patient.” This simple yet invaluable guidance reflects a foundational awareness of safety measures during earthquakes, potentially applicable within healthcare settings. However, participant concerns emphasise the intricate nature of providing care for vulnerable populations in emergencies.

Additionally, participants' perceptions of vulnerability to disasters are influenced by cultural factors, collective memory, and local knowledge. CN6 narrates his experience during an explosion at Malta's drydocks, a significant event for the region as CN7 also recalls: “I remember about the explosion in the ship.” This event, while not

considered a major disaster on a global scale, had substantial local implications, with 35 admissions to their emergency ward: “For Malta you know we are not used to big disasters, but for Malta that one, was quite big because we had around, as an emergency ward, we had 35 admissions on that night.”(CN6) The participant's account reflects the acknowledgment of disaster events that resonate with the community's collective memory.

Furthermore, historical incidents, such as explosions and hijackings, have etched lasting impressions on the collective memory, CN7 narrates: “A Vulcan plane exploded and crashed in Zabbar. Once, I remember, I think in 1985, there was a hijack. I think there were about 60 people who died.” While large-scale natural disasters are infrequent in Malta, historical events continue to influence the community's perceptions and preparations for emergencies. These cultural and historical factors hold significant relevance in tailoring disaster preparedness and management initiatives to align with the specific needs and experiences of the long-term care facility.

In this theme, Disaster Risk Awareness underlines that nurses can improve their readiness to respond by becoming knowledgeable about the numerous types of disasters that could happen in their area or place of employment, such as fires, earthquakes, floods, wildfires, and more. This knowledge empowers them to better prepare and practise their responses, ultimately improving their ability to address emergencies when they arise.

4.2.2 Disaster Nursing Strategies

Within this theme, participants provide valuable insights into the perceptions, challenges, and strategies adopted by charge nurses in the context of disaster preparedness and response. As the researcher delved into these sub-themes, a clearer

understanding emerged of the crucial role nurses play in ensuring the safety and well-being of residents, staff, and the facility itself during crises.

4.2.2.1 Disaster Nursing Roles. Responses from charge nurses revolved around their understanding of the nursing role in disasters in this sub-theme. Some emphasised their capacity to provide immediate medical care during emergencies, provided that they are familiar with protocols and can respond effectively in high-stress situations. For instance, CN6 articulated:

Personally, which I had passed from this thing [providing emergency medical care], I know how to do it... Being prepared, being well-trained, knowing the SOP [standard operating procedure], where the things [resources] are if you need to use them. (CN6)

Additionally, due to the scarcity of resources and overwhelming demand during a disaster, disaster nursing roles emphasise the principles of triage and prioritisation. Triage involves rapid assessment and categorisation of patients based on the severity of their injuries and illnesses, thus determining the order of care. As CN3 elucidated, “In case of emergency, nurses prioritise according to needs, because this is something that happened all of a sudden, maybe there will be only a few seconds to take action...”

CN4 added:

Triage is important, you have to think and act fast. So, you have to assess, some people are mobile, there are people who you can push with wheelchairs, there are people you have to push the beds, there are people who can help themselves, you can take two people with you or even three or four if they walk. If you have a wheelchair, [you can only evacuate] one and if you have a bed, you need two people, it still depends on the condition of the patients. (CN4)

These statements underline the critical need for evacuating patients to ensure their safety, as expressed by CN5: “You have to keep the patients safe as much as possible.” However, this imperative extends beyond just the patients, as CN4 emphasised: “The main thing is you have to take everybody out of the danger, so keep them safe and keep your staff safe and keep yourself safe, so safety is a priority.” It is noteworthy that the majority of participants expressed concerns regarding the specific patient population they were responsible for, given that many of these patients were vulnerable individuals. CN5 recapped, “Evacuate patients, doing first-aid, to make sure patients are safe... to take into consideration the kind of patients you have, like most patients here are fully dependent on activities of daily living (ADLs).”

Nevertheless, nurses acknowledge the challenge of providing care to vulnerable patients, especially those with cognitive impairments. CN1 expressed, “It will be difficult to explain to the patient what to do, even just to gather them. If they are demented, they wouldn’t know what to do...” CN2 echoed this sentiment, stating, “Half of the patients are bed-bound, communication will be very difficult. Most of the patients are non-communicable. It will be very difficult if something happens here.”

These responses highlight that nurses must be prepared to communicate effectively, even in the face of various challenges such as cognitive impairments, language barriers, or sensory deficits. The sub-theme underscores the pivotal role of nurses in long-term care facilities during disasters, encompassing responsibilities related to immediate response by providing patient medical care, triage and prioritisation, evacuation, patient safety, and communication. These duties are essential to ensure the safety, well-being, and effective management of residents, staff, and the overall functioning of the facility during times of crisis.

These insights underscore the resilient mindset nurses adopt when executing their duties in disaster scenarios, provided they possess adequate knowledge about the specific catastrophe they are confronting, as CN1 remarked: “We expect such training would be given to us, like fire we know what to do but other disasters like earthquake, I don’t know.” Hence, the next sub-theme of providing training and education to nurses emerged.

4.2.2.2 Staff Training and Education. Staff training and education within a long-term care facility play a pivotal role in disaster preparedness, with far-reaching implications for the safety, welfare, and effective care of residents during emergency and disaster scenarios. These initiatives equip nurses with the requisite skills, knowledge, and mindset to respond with competence and compassion when faced with challenging circumstances.

As CN1 noted, “We have courses here [regarding disaster], but only for fire, but it couldn’t be only about fire. There are other things. They are mentioning tsunamis, earthquakes and we are not familiar with that.” This sentiment was echoed by CN6, who emphasised the need for comprehensive and continuous training, stating:

Staff should be prepared and well-trained. They should know where the things are, for example, fire extinguishers, know how to evacuate patients, exit areas, and how to use fire extinguishers. For fire, we are prepared. I think we need more. We need training not only about fire and it has to be continuous [ongoing]. (CN6)

Furthermore, CN4 underscored the importance of inclusive training for all staff members, irrespective of their roles within the facility: “We need to educate all the staff, from the in-charges, the carers, the cleaners, they should involve everybody

because everybody has to give a helping hand, even the clerks. Everybody should be educated.”

In contrast, CN5 indicated that they had received training specific to firefighting and patient evacuation, demonstrating a degree of readiness for fire-related emergencies: "There are firefighting exercises and how to evacuate patients from the ward. First-aid courses are being provided... Background only about firefighting."

However, the consensus among participants was that nurses were predominantly equipped with knowledge and skills about fire emergencies, while broader disaster scenarios were less addressed. This limitation is noteworthy given the unique nature of each disaster and the varying challenges they pose, as highlighted by CN5: “It is according to the extent of a disaster. If a small disaster like a small fire in the ward, I think we can manage, but if a missile comes and it falls in the whole hospital, I don’t think we know what we will do.”

In line with these sentiments, participants stressed the necessity for increased training in disaster nursing, disaster preparedness, and disaster management. Such training is essential to equip nurses with adaptable skills to confront a diverse range of scenarios and challenges.

CN7 emphasised the acute need for training specifically focused on the care of residents during disasters, stating, “Residents are our responsibility. We need more training on handling them in case of disaster. That’s the truth and more knowledge [information].”

This call for specialised training is particularly crucial in long-term care facilities, where residents often consist of elderly individuals or those with underlying health conditions, rendering them more susceptible and requiring tailored care during disaster situations. Nurses must be adequately prepared to assess and address these

residents' distinct needs, ultimately ensuring their safety and well-being during such challenging circumstances.

4.2.2.3 Communication. Effective communication as a cornerstone of disaster nursing emerges in this subtheme. This is evidenced by participants' insights into strategies that emphasise the establishment of robust communication systems among healthcare professionals, emergency management agencies, and the broader public. These strategies proved particularly instrumental during the COVID-19 pandemic. CN2 and CN3, for instance, articulated the significance of robust communication during the pandemic. CN2 recounted, “When I got infected with COVID, I had to stay home, and everyday person from health authorities were phoning me, checking up on me, helping me what I must do.” CN3 underscored the importance of information dissemination, stating, “We survived COVID through rapid dissemination of critical information to staff, residents, families, and relevant external agencies. We have more information, we followed the instructions... precautions needed and by that, thank God, we managed.” Access to comprehensive information, coupled with diligent adherence to recommended precautions, played a pivotal role in the successful management of the situation.

These testimonials highlight the imperative of providing timely updates, conveying pertinent information, and maintaining open lines of communication to facilitate coordinated response efforts. Furthermore, charge nurses emphasised the significance of communication between staff and management in disaster preparedness. CN8, in particular, emphasised the need for enhanced communication between these stakeholders, stating:

We need better communication between management and staff. The staff knows the needs of the ward. The management must get information or suggestions

from the staff as they know more about the daily routine and the needs of the ward. (CN8)

This underscores the notion that frontline staff often possess a deeper understanding of a facility's operations, vulnerabilities, and potential risks. Their insights are invaluable for conducting comprehensive disaster risk assessments and formulating effective disaster preparedness plans. By tapping into their first-hand knowledge, management can identify potential hazards and weaknesses that might otherwise remain undetected.

In summary, participants emphasised the pivotal role of nurses in ensuring the safety of residents, staff, and the facility during crises. They discussed disaster nursing roles, which encompass immediate medical care provision, triage, prioritisation, and patient evacuation. The importance of patient safety and communication, particularly with vulnerable patients, was underscored. These insights illuminate the multifaceted responsibilities of nurses in long-term care facilities during disasters, emphasising their role in safeguarding all stakeholders. Participants also highlighted the need for adequate training and education to bolster nurses' preparedness for various catastrophe scenarios, further emphasising their resilient mindset in disaster situations.

4.2.3 Strengthening Resilience

Disasters have an undeniable impact on healthcare systems, and long-term care facilities are particularly susceptible due to their unique population and complex operational demands. In this theme, participants focus on the comprehensive approach to disaster nursing, encompassing risk assessment, mitigation, collaborative response, and preparedness. It emphasises the importance of identifying potential risks and proactively working to reduce their impact in a long-term care facility.

4.2.3.1 Risk Assessment and Mitigation. In the realm of disaster preparedness within healthcare facilities, the paramount importance of proactive risk assessment and mitigation strategies cannot be overstated. This subtheme explores the intricate and critical domain of disaster preparedness as the participants discussed the need to anticipate, evaluate, and address potential risks in safeguarding the well-being of vulnerable populations.

Participants recognised the pivotal role of nurses in identifying potential risks, thereby contributing to the mitigation of disaster impacts and the protection of those entrusted to their care. Nurses engage in rigorous hazard and vulnerability assessments within the facility to proactively reduce risks. One participant identifies the challenge of evacuating residents, As articulated by CN8, “For the ground floor wards it is quite easy that you take out the patients from the ward but speaking then on to the second floor there's no emergency exit, we need emergency exit” Even CN2 claimed apprehension, “I only have one fire exit. I only have the main door. Evacuating patients will be very difficult.” Some of the participants have also identified the fire doors were not placed properly as CN8 narrates: “We need fire doors in the corridors, they only placed it on that side [referring to the end of the corridor], I prefer that fire doors would be on the right place [middle]....”

Nurses play a critical role in the identification of evacuation routes, transportation alternatives, and facilities capable of accommodating residents' unique needs. Consequently, proactive risk identification and mitigation are paramount in safeguarding lives and ensuring preparedness.

4.2.3.2 Collaborative Response. In this thematic sub-section, participants underscored the paramount importance of interdisciplinary collaboration and coordination as fundamental components of effective disaster nursing. Their insights shed light on the critical nature of well-coordinated disaster response teams and the necessity of external assistance when confronting complex crises. As articulated by CN3:

This is not a job for nurses only, it has to be a multi-disciplinary team, involving police, firefighters, soldiers, and nurses. Because you can't work with nurses only, police only, soldiers only, firefighters only. There should be someone who coordinates the team. (CN3)

A key message emerges, that disaster response extends beyond the realm of nursing. It requires a multidisciplinary approach, integrating the expertise of professionals from various fields such as physicians, paramedics, firefighters, administrators, and even external agencies like the police and military. Each profession contributes unique skills and knowledge, culminating in a harmonious symphony of expertise. The central message here is that disaster nursing necessitates the active participation of diverse professionals working seamlessly together to achieve the most effective disaster response. Consequently, the significance of a multidisciplinary approach in disaster nursing cannot be overstated.

Furthermore, participants emphasised the need for structured and well-coordinated disaster response teams. CN7's suggestion: "I think there should be a team designated for disaster. People designated who knows what to do, so they can guide others" underscores the importance of preparedness and training for specific disaster scenarios. These teams serve as guides during crises, ensuring that responses are well-informed, organised, and efficient. This reiterates the idea that disaster preparedness

goes beyond theoretical knowledge, emphasising practical readiness and effective response coordination.

Additionally, the results highlight the necessity of seeking external assistance when confronted with overwhelming disaster scenarios. As underscored by CN4, the need to "get help from outside" emphasises the interconnectivity of disaster response efforts. In many cases, disasters can surpass the capabilities and resources of a single institution or facility. Hence, the recognition of external assistance as a crucial component underscores the imperative of a unified front in disaster response.

Moreover, participants stressed the essential role of risk assessors in proactive disaster preparedness. CN4's assertion that "We should involve risk assessors" underscores the importance of a forward-looking approach to disaster readiness. Engaging with risk assessors constitutes a foundational step in the disaster preparedness process. This collaboration encompasses a comprehensive evaluation of potential risks and hazards, encompassing both common and less frequent scenarios within the healthcare facility. Such assessments are indispensable in developing a roadmap for the safety of residents and staff. CN4 further emphasised the necessity of a coordinated effort between facility management and risk assessors:

The management has to coordinate with the risk assessors to see what the common risk and then the less common risk. We have to start from there so we will know what we should do for the safety of our residents and staff. [We need] more lectures, more equipment, education of the staff. (CN4)

Highlighting the importance of educational initiatives, procurement of necessary equipment, and staff training. This multi-faceted approach ensures that disaster preparedness is not just theoretical but also practical, equipping staff with the knowledge and resources required to respond effectively to disasters.

In summation, this sub-theme illuminates the critical importance of collaborative response strategies in disaster nursing. It advocates for a multidisciplinary approach, structured disaster response teams, external assistance when needed, and proactive engagement with risk assessors. These results underscore that effective disaster preparedness and response are multifaceted endeavours, involving the collective efforts of various professionals and stakeholders to safeguard the safety and well-being of residents, staff, and the healthcare facility during times of crisis.

4.2.3.3 Preparedness. This subtheme explores the degree of disaster preparedness within the context of a long-term care facility, as perceived by the participating individuals. Their assessments of preparedness encompass various aspects, including the presence of fire safety measures, evacuation plans, contingency strategies, and educational efforts to promote disaster preparedness.

One participant (CN4) underscored the commitment to disaster preparedness within their facility, noting the availability of fire extinguishers, evacuation plans, and contingency strategies. They also emphasised the provision of educational lectures on proper disaster response procedures and resource availability, as the participant mentioned:

We have fire extinguishers, there is an evacuation plan... there are some plans of what could happen, what should we do... So even the management knows that there is something that could go wrong so we have lectures on what to do and not to do, and what is available [resources]. (CN4)

This participant's statement reflects an institutional commitment to preparedness, as well as efforts to educate staff on appropriate responses to potential crises.

However, the participants' assessments of preparedness vary, with some expressing confidence in their facility's readiness for fire-related incidents but

harbouring doubts regarding preparedness for other types of disasters. For example, one participant (CN2) expressed reservations about the facility's preparedness, stating that they felt adequately equipped for fire-related emergencies but less so for other disaster scenarios. Similarly, another participant (CN3) highlighted the presence of evacuation plans specifically tailored to fire emergencies, indicating a potential gap in preparedness for different types of disasters: “There are evacuation plans, but only for fire but for other types of disaster I don’t think, we are prepared.”

Notably, recent developments in disaster planning efforts were reported by participants, mentioning the creation of a designated disaster cupboard: “Recently, we just had a meeting regarding disaster plan. We started setting up a disaster cupboard, where resources needed during a national disaster were placed in that cupboard” (CN7). This cupboard is intended to serve as a repository for essential resources required during national disasters, indicating a heightened focus on preparedness. Nevertheless, another participant (CN8) highlighted the need for management to take more substantial actions in disaster management planning, expressing doubts about the sufficiency of current measures.

The presence of evacuation plans and the establishment of disaster cupboards are acknowledged as positive steps toward disaster preparedness. These initiatives demonstrate proactive measures aimed at enhancing readiness within the facility. Nonetheless, concerns are raised by some participants about the adequacy of these preparations, particularly in the context of major disasters.

Hence, participants recognise the importance of disaster preparedness efforts within their healthcare facility but stress the need for comprehensive planning and resource allocation, particularly for disasters other than fires.

In summary, Theme 3 underscores the importance of a holistic approach to disaster nursing, involving risk assessment, mitigation, collaboration, and preparedness. Participants acknowledge both the progress made and the challenges that remain in ensuring the resilience of long-term care facilities in the face of diverse disaster scenarios.

4.3 Conclusion

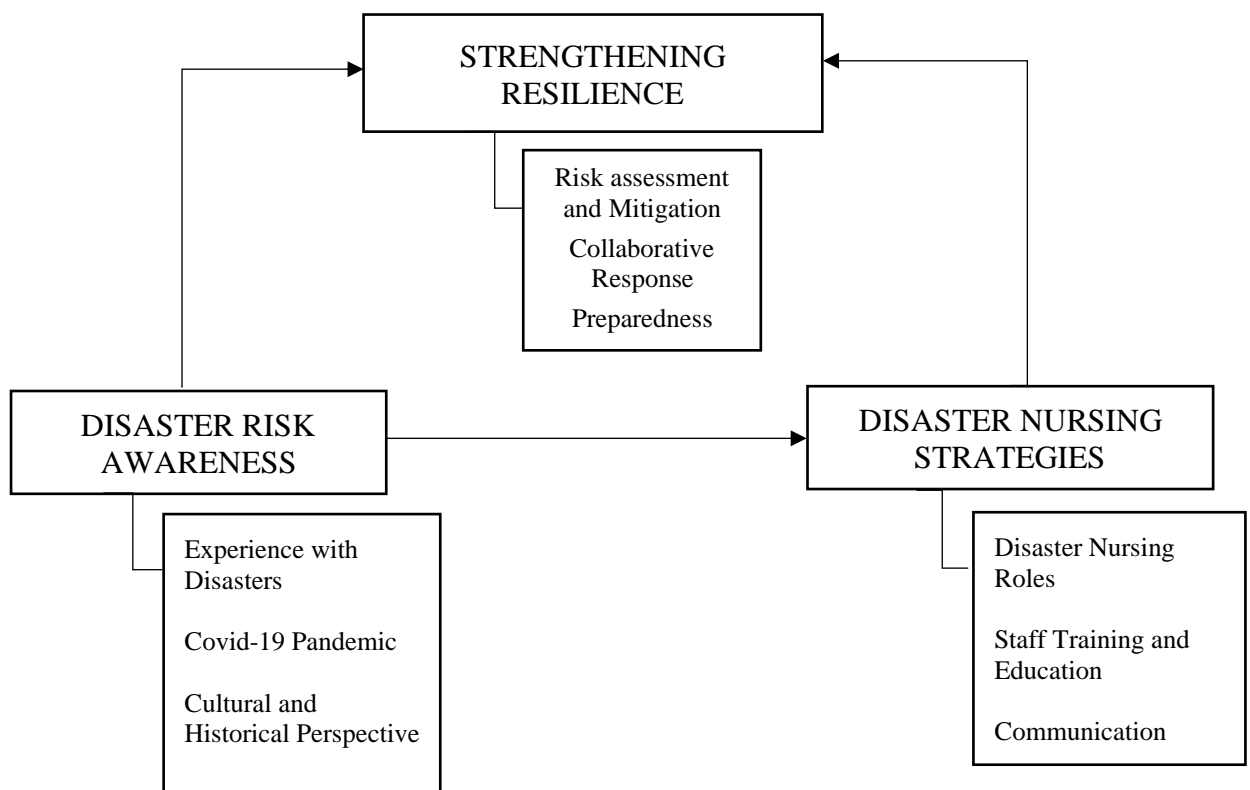
These themes and sub-themes provide a comprehensive framework for understanding the various aspects of disaster risk awareness, nursing strategies, and resilience-building efforts in the context of long-term care facilities. It underscores the need for ongoing education and resources to ensure nurses are well-prepared to respond to a variety of disaster scenarios and protect vulnerable populations. A critical review of these findings in light of the body of research will be provided in the following chapter.

CHAPTER 5 – DISCUSSION

This chapter explores a rigorous discussion of the findings related to nurses' perceptions on disaster risk awareness and their readiness and management strategies in a long-term care facility setting in Malta. The findings will be meticulously analysed and discussed in light of existing literature, offering a comparative lens to better understand the unique and shared nuances of their knowledge. The research study's overarching inquiries revolve around two fundamental questions: (1) How do nurses perceive disasters in Malta, and what are their perspectives on disaster nursing preparedness and management? (2) In the event of a disaster within a long-term care facility, what roles do nurses envision for themselves? The research study's outcomes have culminated in the identification of three primary themes, each branching into three sub-themes. A visual representation of the key concepts is presented below (Figure 5.1).

Figure 5.1

The Nexus of Disaster Risk Awareness, Nursing Strategies, and Resilience Building in a Long-Term Care Facility



The discussion of these themes is further enriched by the integration of theoretical insights that emerged during the interpretative phase of the research. Although not initially intended as guiding frameworks, three key theories have surfaced as significant in understanding the interplay between disaster risk awareness, nursing strategies, and resilience building within a long-term care facility context.

Firstly, Kolb's Experiential Learning Theory (1984) is relevant in highlighting the importance of practical experiences in enhancing the disaster readiness of nursing personnel. This theory underscores the value of hands-on, scenario-based learning in building competencies for disaster response.

Secondly, Hofstede's Cultural Dimensions Theory (1984) offers insights into how cultural narratives shape perceptions and responses to disasters. This theory is instrumental in understanding the varied responses and attitudes towards disasters among nurses, influenced by their cultural backgrounds.

Lastly, Renn's Risk Management Theories (2008) emphasise the necessity of a proactive stance in disaster preparedness. This perspective advocates for strategic planning and anticipation, moving beyond reactive measures to a more comprehensive and forward-thinking approach.

These theories, while not the starting point of the research, have provided valuable lenses through which the research study's findings can be interpreted and contextualised. They contribute to a more nuanced understanding of the complexities involved in disaster risk awareness, nursing strategies, and resilience building in long-term care settings, pointing towards more effective and informed practices in disaster management.

5.1 Nurses' Perspectives on Disaster Awareness in Malta

Within the realm of healthcare, the perspectives and preparedness of nurses towards disasters play a crucial role. This section examines nurses' viewpoints on disasters in Malta, dissecting the primary theme of "Disaster Risk Awareness", a theme in alignment with existing literature emphasising the role of awareness in disaster risk reduction (Glago, 2019). Three pivotal sub-themes emerge from this investigation: "Experience with Disasters," "COVID-19 Pandemic," and "Cultural and Historical Perspective."

5.1.1 Experience with Disasters: Personal Encounters and Perceived Frequency

Nurses' first-hand encounters with crises, such as the Covid-19 pandemic, significantly shape their perceptions, attitudes, and eventual actions toward disaster preparedness. This concurs with the experiential learning theory where direct experience serves as the primary substrate for learning (Kolb, 1984). Experiential Learning Theory provides a valuable framework for understanding how nurses learn and adapt, especially in dynamic and challenging environments like healthcare during disasters. This theory underscores the importance of learning from experience, reflecting on that experience, using it to form new concepts, and then applying those concepts in practice (Kolb, 1984).

Nurses in Malta predominantly view significant disasters, like earthquakes, tsunamis, or volcanic eruptions, as rare. This viewpoint derives from Malta's historical absence of such events. Childhood memories, especially those of earthquake incidents, significantly inform this perception. This aligns with Glago's concept of disaster risk awareness involving common knowledge about potential triggers (Glago, 2019). However, it is important to note that their exposure to diverse disaster scenarios is

limited, contradicting the notion that awareness diminishes as memories of past events recede (Shen, 2009, as cited in Glago, 2019).

Furthermore, a sense of complacency seems prevalent among nurses, stemming from their belief in the infrequency of large-scale disasters in Malta. The research study's findings resonate with the classification of Malta as one of the least exposed countries to disaster risk in the World Risk Report (Atwii et al., 2022). While this classification may initially appear reassuring, it reveals a noteworthy contradiction. The contradiction arises from the United Nations Educational, Scientific and Cultural Organization [UNESCO]'s advisory to Malta in 2022, urging preparedness for a potential tsunami in the coming decades, as highlighted by Debono (2022).

This complacency potentially jeopardises efficient disaster response. Aligning with Alshahrani's (2021) findings, such attitudes can reduce nurses' readiness, especially in regions with historically fewer disasters. This stands in sharp contrast to areas with recurrent disasters where health professionals typically exhibit heightened awareness and preparedness—a sentiment mirrored by Brewer et al. (2020), Labrague et al. (2018), and Grochtdreis et al. (2016).

5.1.2 The COVID-19 Pandemic: A Transformative Experience

While past experiences dictate disaster perceptions, the recent COVID-19 pandemic offers a unique learning curve. Despite their limited exposure to pandemics, nurses exhibited commendable adaptability and competence in managing the crisis. This adaptability, observed during the pandemic, supports the argument that direct experiences with disasters can profoundly shape disaster preparedness and responsiveness. This aligns with previous literature, suggesting the salience of first-hand experiences in enhancing disaster preparedness (Groceterias et al., 2016).

5.1.3 Cultural and Historical Influences on Disaster Perceptions

Nurses' disaster preparedness efforts in Malta are not solely shaped by personal experiences. Cultural narratives and historical events play an influential role. Traditional knowledge, interwoven with past events, adds depth and context to their disaster risk awareness. The historical and cultural backdrop of Malta dictates how nurses perceive and respond to potential threats. As posited by Hofstede's (1984) cultural dimensions theory, a culture's historical narrative influences its contemporary behavioural patterns, including those related to disaster awareness and responsiveness. The impact of these factors emphasises the need for disaster management strategies tailored to Malta's unique cultural and historical backdrop.

The study amplifies the value of local knowledge, suggesting that global risk assessments might sometimes overlook regional specificities. This assertion echoes the findings of Main et al. (2018) on the significance of integrating local perspectives into broader disaster risk frameworks.

5.1.4 The Interplay of Awareness and Preparedness

The research identifies an intricate relationship between disaster risk awareness and preparedness. Proactive identification and mitigation of potential threats underscore a preventive approach, aligning with the risk management theories which advocate for a proactive versus reactive stance (Renn, 2008). This theory emphasises the importance of anticipation and preparedness in disaster risk management, advocating for a strategic approach that prioritises prevention and readiness over post-disaster reaction. Such a stance is essential in the context of long-term care facilities, where the vulnerability of residents necessitates a heightened level of preparedness and swift, effective response mechanisms. Preparedness involves not just physical and logistical readiness but also mental and emotional preparedness, echoing the components of resilience theories

(Ungar, 2008). While some studies suggest that low-risk awareness negatively affects readiness and response (Torani et al., 2019), others argue that disaster risk perception alone may not significantly influence preparedness (Appleby-Arnold et al., 2018). This disparity underscores the intricate relationship between awareness and preparedness and highlights the necessity for a nuanced understanding of these factors. This nuance is crucial for effective disaster management, echoing the broader call for context-specific disaster risk reduction strategies as emphasised in the Hyogo Framework for Action (United Nations Office for Disaster Risk Reduction [UNISDR], 2015).

In summation, the perspectives of nurses in Malta pertaining to disaster awareness and preparedness are intricately shaped by a confluence of individual experiences, cultural-historical narratives, and global occurrences, notably the COVID-19 pandemic. While a sense of complacency may be observed due to Malta's limited historical encounters with large-scale disasters, the pandemic undeniably highlighted the remarkable adaptability and resilience inherent in these healthcare practitioners. To ensure optimal disaster response, it is imperative to formulate management strategies that are attuned to Malta's distinct socio-cultural and historical fabric. This underscores the salience of embedding local particularities within overarching disaster risk management paradigms. By acquainting themselves with a diverse array of potential disasters, nurses can augment their state of readiness, thus bolstering their competence in handling emergent crises.

5.2 Disaster Nursing Preparedness in Long-Term Care Facilities

Nursing professionals occupy a crucial position in managing disasters in long-term care establishments. Their insights into proactive risk assessment, resource allocation, and comprehensive planning are paramount in bolstering these institutions against diverse disaster scenarios. This research study explores the many dimensions of

disaster preparedness, identifying areas of strength and bringing to light gaps demanding immediate attention.

5.2.1 Confidence in Fire Emergency Preparedness

The research participants conveyed significant confidence in addressing fire-related emergencies. This assurance stems from the ingrained fire safety protocols, evacuation blueprints, and sustained education on emergency procedures. These findings resonate with Amberson et al. (2020), emphasising the crucial nature of specialised disaster training in boosting preparedness and confidence levels among emergency department nursing personnel.

5.2.2 Varied Preparedness for Diverse Disaster Scenarios

Participants in the research study exhibited a strong sense of confidence when it comes to handling fire-related emergencies. Their training and the established protocols in place likely contribute to this assurance. However, when faced with other disaster scenarios, their confidence wavered. Doubts and concerns emerged regarding the readiness for less common disaster situations.

This observed variation in confidence is not unique to this research study. It is consistent with findings from the broader academic landscape. For instance, studies like Karnjus et al. (2021) have highlighted that depending on their roles and settings, nurses often express different levels of confidence in their disaster preparedness capabilities.

Such a disparity underscores a potential gap in comprehensive disaster preparedness planning within long-term care facilities. While many healthcare settings may have specialised strategies tailored for specific disaster types, such as fires, there seems to be a shortfall in planning for rarer, yet possible, disaster scenarios. This sentiment was further echoed in a comprehensive review by Labrague et al. (2018).

Their study revealed that many healthcare professionals, across various settings, felt that their preparedness was not adequate to handle a spectrum of disaster situations.

Given these insights, it becomes evident that there is a need for more holistic disaster preparedness strategies that encompass all potential scenarios and not just the most common ones.

5.2.3 Evolving Disaster Preparedness Strategies

There have been notable advancements in disaster preparedness. For instance, the introduction of "disaster cupboards" in the facility is a clear indication of a proactive approach to disaster management. However, there is a continuous need for further research and development in this area to ensure comprehensive readiness.

This sentiment aligns with the findings of Pierce et al. (2017), who highlighted the limited number of studies focused on interventions to enhance the readiness and response to disasters in long-term care establishments. The outcomes of the current study underscore the pressing need for more in-depth research in this domain. Considering the significant challenges that long-term care facilities face during disasters, it becomes imperative to explore deeper into identifying interventions that can effectively enhance outcomes for the residents.

5.2.4 Role of Training and Education in Disaster Preparedness

Continuous professional development in the realm of disaster preparedness equips nurses with the requisite skills, reflecting Bandura's (1977) social learning theory wherein learning transpires through observation, modelling, and experiences. Education and training hold considerable sway over nurses' perceptions of their disaster readiness. This significance is deeply rooted in empirical evidence. Studies by Karnjus et al. (2021), Al Harthi et al. (2020), Pierce et al. (2017), and others consistently highlight the

profound impact of education and training on nurses' self-assessment of their preparedness levels.

While specific training modules have instilled confidence in nurses for certain disaster types, there is a clear need to diversify and expand the curriculum to address a broader array of disaster scenarios. Amberson et al. (2020) resonate with this sentiment, noting that specialised training interventions significantly elevate disaster preparedness.

Furthermore, the recognition of the importance of preparedness is not isolated to nurses. Many healthcare professionals across various disciplines understand the paramount importance of readiness. They acknowledge the need for protocols, resources, and consistent training. This understanding is supported by research from Brewer et al. (2020) and Pierre et al. (2017), who observed a consensus among healthcare professionals about the significance of comprehensive preparedness measures.

Given these insights and the broader consensus in the healthcare community, it is evident that a comprehensive, well-rounded educational approach is pivotal. This ensures that all healthcare professionals, including nurses, are equipped and confident to handle any disaster situation.

5.2.5 Management's Involvement is Crucial

The research study suggests that top-level management must take more substantial actions to ensure all-encompassing disaster preparedness. This was further emphasised by CN8, who called for a more inclusive approach by involving staff nurses in disaster management strategy development. Both Karnjus et al. (2021) and Tzeng et al. (2016) found that involving nursing staff directly in disaster planning enhances overall facility readiness.

5.2.6 Need for Structured and Coordinated Disaster Response Teams

Interdisciplinary collaborations amplify the efficacy of disaster responses, reflecting the tenets of team dynamics and collaboration theories (Tuckman, 1965). One of the pivotal findings from the research study underscores the essential need for a well-coordinated and structured disaster response framework, emphasising that optimal disaster response goes beyond just the nursing sector. It necessitates the collaboration of a myriad of professionals, including physicians, paramedics, firefighters, and administrators, further supported by external contingents like the police and military. This integrated approach, as accentuated by Al Harthi et al. (2020), is quintessential for an efficient prehospital system. Furthermore, the Sendai Framework Priority Action 1 delineates the primary importance of comprehending disaster risk in all its complexity—capturing the intricacies of vulnerability, people and asset exposure, hazard specifics, and the broader environmental context. This understanding is crucial, as underscored by the Words into Action Guidelines (UNDRR, 2018), and acts as a bedrock for formulating novel and proficient strategies for disaster risk management and response. Al Harthi et al. (2020) further shed light on the synergistic relationship between an organised response framework and solid risk assessment. By intertwining risk assessments within disaster protocols, strategies can be tailored to target unique vulnerabilities inherent to facilities. Adding to this discourse, Glago (2019) underscores the importance of fostering disaster risk awareness, a sentiment echoed by the Hyogo Framework for Action (HFA) (2005–2015), which propounds the need for knowledge application, innovative solutions, and education to cultivate resilience. Nevertheless, it is essential to recognise, as studies suggest, that a dearth in risk awareness can detrimentally affect readiness, hamper hazard warnings, and hinder both protection and recovery endeavours. Amplifying this, Torani et al. (2019) stress the imperative of

delivering disaster risk information, especially to those most vulnerable, advocating for specialised training and education to empower these groups to navigate disasters effectively. In conclusion, to achieve a proactive, risk-informed disaster response, an amalgamation of organised teams, robust risk assessments, and heightened awareness is indispensable.

In summary, nurses in long-term care facilities exhibit confidence in handling certain disasters, such as fires, due to established protocols and extensive training. However, there is a discernible unease concerning other disaster types, hinting at areas of unpreparedness. Despite this, the dedication to rectify these gaps is evident through recent initiatives, constant education, and proactive management. Research findings and previous studies, including those by Brewer et al. (2020), Pierce et al. (2017), and Al Harthi et al. (2020), emphasise the imperative for a comprehensive disaster preparedness plan. By embracing this holistic approach, healthcare facilities can bolster resilience and readiness across varied disaster scenarios.

5.3 The Integral Role of Nurses in Disaster Preparedness and Management within Long-Term Care Facilities

Clearly delineated roles within the context of disaster response facilitate efficient and coordinated action, a principle echoed in the role theory (Biddle, 1979). Nurses, regardless of their specific workplace, hold a pivotal position in the sphere of disaster preparedness and response. Su et al. (2022) identify five key professional competencies that nurses ought to have: the ability to triage casualties, conduct observations and monitoring, apply basic first aid methods, provide psychological care, and demonstrate effective communication skills. These competencies are imperative for ensuring an effective response to emergencies and different types of disasters. This aligns with findings concerning nurses in long-term care facilities. These professionals play an

indispensable role in disaster situations, their duties encompassing immediate medical care, triage, evacuation strategies, and safeguarding patient welfare. Effective communication emerges as a consistent theme across Su et al., (2022) and the current study, emphasising its importance in disaster scenarios. Efficient information exchange, both vertically and horizontally, within the healthcare hierarchy ensures timely and effective response, resonating with the communication theory's principles (Shannon & Weaver, 1949). Nevertheless, as highlighted by Martono et al. (2019) and Al Harthi et al. (2020), a nuanced understanding reveals that nurses, despite their integral role, are not always uniformly prepared or cognisant of their potential roles, both in the preparatory phase and the aftermath of disasters. This disparity in preparedness and recognition is concerning since disaster situations demand a seamless and coordinated response from all healthcare professionals.

This research study brings to the fore the criticality of comprehensive training and education for nurses. The narratives from participants in the study underscored their resilient mindset and unwavering dedication, both vital in ensuring the safety and well-being of residents, staff, and the overall facility during tumultuous times. Their commitment to being adequately prepared parallels the emphasis on both personal and professional readiness as discussed in the existing literature. Grochtdreis et al. (2016) have highlighted the importance of consistent education and rigorous training in the realm of disaster response. In consonance with this, the current study reaffirms the importance of these elements, especially in the unique setting of long-term care facilities. The ICN Framework, as expounded by Hutton et al. (2016), further reinforces the value of competencies in directing the roles of nurses during calamities.

5.3.1 Exploring Nurses' Perceptions on Disaster Roles and Responsibilities

In scrutinising nurses' perceptions of their roles during disasters, the findings mirror the perspectives presented by Grochtdreis et al. (2016). It is apparent that their perception is deeply influenced by their professional training, past experiences, and the challenges they encounter during crisis scenarios. One fundamental responsibility they identify with is the provision of immediate medical care in emergencies. Moreover, the imperative to adapt roles based on each nurse's familial and community-related duties, as suggested by Grochtdreis et al. (2016), further highlights the multifaceted roles nurses undertake.

Participants emphasised the triage and prioritisation processes, reflecting the standards set by the WHO and ICN's Framework of Disaster Nursing Competencies. This involves swift patient assessments, categorising them based on their health exigencies, which in turn guides the efficient allocation of care resources. The evacuation process becomes especially significant in long-term care facilities, given the inherent vulnerabilities of the resident population. Thus, ensuring safety transcends just patient care; it encompasses the well-being of the entire healthcare society, with nurses being at the forefront. Additionally, the efficacy of these roles is deeply intertwined with their ability to communicate, a skill that becomes paramount, especially when catering to patients with cognitive challenges, language barriers, or sensory impediments.

Further emphasising the importance of realistic roles in relation to nurses' competencies and experiences, Grochtdreis et al. (2016) align with this study's assertion on the quintessential nature of appropriate training and education, prepping nurses for a plethora of disaster situations.

In essence, this exploration not only validates but also augments existing literature on the topic. The collective insights from this study and previous works, including those by Martono et al. (2019), Al Harthi et al. (2020), and Grochtdreis et al. (2016), underline the imperative for transparent, well-articulated, and adaptive role definitions for nurses. Such roles should consider their academic background, skill set, personal commitments, and the intricacies of varied disaster scenarios. Addressing these facets is essential, ensuring nurses can optimally contribute to disaster interventions, and safeguarding all stakeholders in times of crises.

5.3.2 Exploring the Leadership Challenges in Disaster Preparedness and Response

In the context of disaster management in healthcare settings, there has been a growing recognition of the pivotal role played by nursing professionals. As highlighted by Karnjus et al. (2021), registered nurses, particularly those working in nursing homes, as well as nurse managers, display an increased awareness of the crucial competencies required for unexpected events. This aligns with the findings, where charge nurses, when faced with the realities of disaster nursing, anticipate a series of unique challenges. Central to these challenges is the issue of resource constraints, be it medical supplies, equipment, or personnel, echoing the concerns raised by Al Harthi et al. (2020) about hospitals' limited capacities.

An additional layer of challenge arises in the context of long-term care facilities. As Peterson et al. (2021) have rightly pointed out, these facilities are continuously grappling with safeguarding residents during disasters. This challenge becomes even more pronounced, as findings suggest, given the vulnerabilities of patients, especially those with cognitive impairments, chronic illnesses, or mobility challenges. The intricacies of ensuring their well-being, more so during evacuations, intensify the complexities of disaster management in these settings.

Moreover, a recurring topic from the literature and the findings revolves around the preparedness of healthcare professionals, particularly in the realm of training. It is alarming yet not surprising that many charge nurses feel their training, predominantly centred around fire emergencies, leaves them underprepared for other disaster contexts, such as earthquakes or pandemics. This sentiment aligns with the Al Harthi et al., (2020) emphasis on the gaps in hospital preparedness, ranging from a lack of awareness about policies to poor planning.

Collaboration emerges as another focal point. As Peterson et al. (2021) emphasise, effective cooperation between long-term care facilities and local emergency readiness organizations is paramount. The study findings build on this, highlighting the necessity for charge nurses to engage seamlessly with a spectrum of healthcare professionals and emergency agencies.

This comprehensive exploration underscores the multifaceted roles and responsibilities of nurses during disasters, reflecting the pivotal contribution of their professional training, experience, and ability to adapt to dynamic challenges. Their ability to provide immediate care, efficiently triage, and navigate evacuation procedures, especially in long-term care facilities, emphasises their centrality in the disaster response framework. Furthermore, their proficiency in communication remains paramount, especially when interacting with vulnerable patient demographics. The literature reinforces these findings, suggesting the utmost importance of clear role definitions and appropriate training for nurses, tailored to diverse disaster scenarios.

Moreover, when delving into leadership challenges, it becomes evident that resource constraints, particularly in long-term care settings, present significant obstacles. The vulnerability of residents in these facilities amplifies the intricacies of disaster preparedness and response. Adding to this is the discernible gap in training,

predominantly around diverse disaster scenarios beyond fire emergencies, emphasising the pressing need for more holistic preparedness strategies. The emphasis on collaboration, bridging the gap between healthcare professionals and emergency response agencies, is undeniably crucial.

In summary, the insights gathered spotlight the instrumental role of nurses in disaster preparedness and management, weaving together their expertise, challenges, and collaboration dynamics. It is an intricate tapestry of roles, responsibilities, and challenges that demands holistic strategies, continuous training, and robust collaboration for optimal disaster response and patient care outcomes.

5.4 The Interplay Between Perception and Role of Nurses in Malta

The relationship between nurses in Malta and disaster scenarios is characterised by a complex interplay of their perceptions and roles. These facets are influenced by a mix of personal experiences, cultural values, and professional training.

5.4.1 Perception of Disasters Among Nurses in Malta

The unique perspective nurses in Malta hold regarding disasters is significantly influenced by their personal experiences, historical events, and cultural nuances. The shared cultural values, such as strong family ties and social cohesion, play a pivotal role in shaping their disaster preparedness intentions. Appleby-Arnold et al. (2018) further elucidate the influence of cultural traits on disaster preparedness. Recent global events, like the COVID-19 pandemic, have not only influenced but actively redefined these perspectives, moulding their approach to disaster readiness and response. Kimin et al. (2022) highlight that nurses' adaptability in disaster situations hinges upon their clinical experience, prior disaster exposure, and training. This aligns with the dynamics seen among nurses in Malta, where events such as the COVID-19 pandemic critically inform their disaster strategies. Additionally, the emphasis Kimin et al. (2022) place on the

importance of organisational support and robust disaster management policies resonates deeply. In Malta, there is a noticeable training deficit, especially for diverse disaster scenarios, underlining the need to address this to enhance nurses' disaster preparedness.

5.4.2 The Multifaceted Role of Nurses in Disaster Management

The comprehensive role of nurses in disaster situations showcases their versatility, which stems from their professional training, experience, and inherent adaptability. Their competencies span a wide range of critical services, including immediate care provision, triage operations, evacuation procedures, and notably, effective communication, especially with vulnerable patient demographics. However, their crucial role in disaster scenarios does not come without challenges. A discernible gap in training, especially around varied disaster scenarios beyond typical fire emergencies, has been highlighted. A significant challenge is in leadership within long-term care settings, compounded by resource constraints and the vulnerability of residents. Plagg et al. (2022) explore deeper into these complexities, highlighting the critical challenges in long-term care facilities due to lack of preparedness and the repercussions of untrained staff improvisation. Their findings underscore the importance of specialised strategies and training tailored to varied disaster contexts.

5.4.3 The Imperative of Collaboration

One of the central themes arising from this interplay is the undeniable need for collaboration. The insights of Hasan et al. (2021) reinforce this, emphasising the relationship between disaster knowledge, skills, preparedness, and targeted training. The pressing call for intensive disaster drills in workplaces, as highlighted in their study, echoes even in the Maltese context. Bridging the gap between healthcare professionals and emergency responders is essential for a cohesive, impactful response.

The perspectives and roles of nurses in Malta regarding disaster situations provide valuable insights into their preparedness, adaptability, and challenges. Drawing parallels with global literature offers a comprehensive understanding of their unique positioning and the broader implications for healthcare and disaster management. Their views, shaped by socio-cultural and historical factors, along with their expansive roles in disaster situations, underscore the importance of holistic strategies, continuous training, and robust collaboration. These insights provide a pathway for optimal disaster response and superior patient care outcomes.

In essence, nurses play a crucial role in disaster preparedness, especially in long-term care facilities, encompassing immediate care, triage, and evacuation. Despite their significance, there is a noticeable disparity in their preparedness across different disaster scenarios. In Malta, nurses' perceptions and roles are shaped by cultural and historical influences, emphasising the need for targeted training. Large-scale evacuations present challenges like logistical issues, communication barriers, emotional strain, and resource constraints. Addressing these challenges demands both ward-specific insights and overarching facility strategies, underlined by consistent training and inter-agency collaboration.

5.5 Evacuation Challenge

One daunting aspect that often looms in the shadows is the prospect of a full-scale evacuation, especially in sprawling healthcare establishments like long-term care homes housing over a thousand residents. Interestingly, despite the scale and intricacies of such an endeavour, discussions with individual ward charge nurses often spotlight localised preparedness and immediate ward-centric concerns. This narrow focus, while crucial, can inadvertently eclipse the broader challenges associated with a facility-wide

evacuation. It is an issue that, although not underscored emphatically by participants, bears significant weight in the wider discourse on disaster preparedness.

National Academies of Sciences, Engineering, and Medicine et al. (2021) elucidates that during these disasters, nurses often find themselves staffing shelters, providing crucial support for those displaced by events like earthquakes and hurricanes. Shelters, much like long-term healthcare facilities, become paramount in disaster response. On the flip side, the study by Van Devanter et al. (2017) serves as a clarion call, highlighting a palpable gap. Many nurses, as the study indicates, felt ill-equipped for a facility-wide evacuation, showcasing limited knowledge of institutional disaster protocols. This reality underscores the urgency for comprehensive training in event organization, triage, and evacuation, which are unequivocally essential skills for nurses.

However, the recommendation from Pierce et al. (2017) adds a significant dimension to the conversation. Their study advises local governments to weigh the risks and benefits of obligatory evacuation guidelines for long-term care facilities. This recommendation stems from findings suggesting that evacuating these residents could lead to more adverse health effects than if they were to shelter-in-place. Such insights emphasise the need for nuanced, well-informed decisions during crises, factoring in both immediate safety and potential long-term health consequences.

The challenges inherent in evacuating a medical facility are multifaceted. The complexities arise from logistical issues like resource shortages and transportation, as evidenced by events like the Fukushima disaster in Japan, where evacuations strained caregivers and worsened patient conditions. An essential aspect of addressing these challenges is the preparedness level of staff and residents. Studies by Titko and Ristvej in 2020 emphasised the impact of individuals' awareness of evacuation guidelines and protective measures on effective emergency responses. Knowledge and awareness can

not only expedite evacuations but also prevent complications and support post-event recovery.

Effective communication, especially during the pandemonium of evacuation, is pivotal. With a large number of residents and staff, the potential for miscommunication is high. This risk is especially grave considering that clear communication is crucial for patient care and safety during emergencies. For instance, the ICN (Hutton et al., 2016) emphasises the importance of efficient information dissemination within a nurse's emergency domain.

Moreover, disasters impose significant emotional and psychological strain on everyone involved. Past events like the Fukushima disaster (Nishikawa et al., 2019) and Taiwan's fire (Huang, 2021) disasters have underlined the emotional turmoil experienced by both patients, who may feel displaced and anxious, and staff, who manage their fears while ensuring patient care. Furthermore, the challenge of effective resource allocation looms large, with potential shortages in staff, healthcare supplies, and transportation. The Taiwan fire disasters (Huang, 2021) and research by Pierce et al. in 2017 are testament to these challenges.

In the context of large-scale evacuations, the interdependence of various wards in a facility becomes glaringly apparent. A delay or problem in one ward can impact the evacuation process of the entire facility, emphasising the need for synchronised evacuation strategies. The importance of training and mock drills in preparedness cannot be overstated. Events like the West Texas explosion (Prot and Clements, 2017) underscore the necessity for practice alongside planning. Moreover, post-evacuation concerns present another layer of challenges, from patient relocation and continued care to evaluations for future strategies, highlighting the importance of thorough post-response assessments.

In conclusion, while ward-specific preparedness is essential, a holistic perspective that encompasses the entire facility is imperative for evacuations, especially in long-term care facilities. Such an approach should cater to immediate concerns while also preparing for large-scale emergencies. Adopting such comprehensive measures can enhance disaster nursing responses and significantly improve patient outcomes during critical events.

5.6 Meeting the Aims and Objectives

The research study successfully navigates the perceptions nurses hold towards disasters in Malta. With themes highlighting a historical absence of significant disasters and the transformative experience of the COVID-19 pandemic, the study offers a comprehensive overview of how past experiences and recent events shape nurses' viewpoints. Moreover, exploring the pivotal roles nurses play in disaster scenarios within long-term care settings, the study converges on their confidence in handling specific emergencies, the significance of continuous training, and the challenges they anticipate. These findings directly address the study's second question, illuminating the multifaceted roles nurses undertake during crises.

In brief, the research not only navigates its predefined objectives but offers deep, comprehensive insights into the unique challenges, perceptions, and roles of nurses in Malta concerning disaster preparedness and management. The alignment between the study's primary questions and its outcomes underscores its robust design and execution, making it a pivotal reference for future research and practical implementations in the realm of disaster nursing in Malta.

5.7 Implications of the Findings

The research provides a pioneering exploration into nurses' perceptions on disasters within the specific context of Malta, bringing to light a significant gap in

disaster preparedness stemming from Malta's historical absence of major disasters. This complacency, rooted in history, might risk undermining the efficiency and effectiveness of disaster response strategies when they are most needed.

One of the crucial revelations from the study pertains to the role of charge nurses in long-term care facilities. The participants, who had decades of experience, offered a nuanced understanding of the responsibilities and challenges nurses face during disaster scenarios. Their vast tenure and insight into the disaster preparedness protocols of their facilities were instrumental in underscoring the essential role nurses play in such settings. The shared experiences among participants, despite their varied years of service, suggest a homogeneity in their training and exposure to protocols, hinting at the potential for a unified approach in updating and enhancing disaster readiness measures.

The emergence of three central themes from the interviews provided a comprehensive roadmap to understanding disaster preparedness and response in long-term care settings. Firstly, Disaster Risk Awareness emphasised the need for nurses to possess comprehensive knowledge of potential disasters. Their preparedness, based on the findings, is integral to effective disaster response, particularly in a context where prior experience with significant disasters might be limited.

Secondly, the theme of Disaster Nursing Strategies outlines the crucial role nurses play not just in immediate medical response but also in ensuring the overall well-being and safety of all stakeholders during a crisis. This theme highlighted the indispensable role of nurses in long-term care facilities, pointing to the urgent need for tailored training programs focusing on specific challenges they might face during a disaster.

Lastly, Strengthening Resilience underscored the need for a holistic approach, emphasising collaboration, risk assessment, and mitigation. The theme stresses the

importance of ensuring long-term care facilities can withstand and recover from disasters, given their unique vulnerabilities.

5.8 Conclusion

In conclusion, this research study underscores the critical role of nurses in Malta's long-term care facilities in disaster preparedness and response. The findings emphasise the need for equipping nurses with the necessary knowledge, skills, and resources to effectively manage potential disasters. A key recommendation is fostering a broader national dialogue on preparedness, advocating a shift from historical complacency to proactive strategy formulation and implementation.

Significantly, while theories such as Kolb's Experiential Learning, Hofstede's Cultural Dimensions, and Renn's Risk Management were not initial guiding frameworks, they emerged as insightful lenses in interpreting the data. These theoretical perspectives enriched the understanding of how experiential learning, cultural awareness, and proactive risk management are vital in shaping effective disaster preparedness strategies in long-term care settings. The study, therefore, suggests integrating these elements into training and policy development, emphasizing their importance in building a resilient and responsive nursing workforce.

Ultimately, this research highlights the urgency of preparing Malta's nurses, who are on the frontline in safeguarding the nation's most vulnerable populations, ensuring their well-being in the face of potential disasters. The study's insights provide a foundation for enhancing disaster preparedness policies and practices, aligning them with the nuanced needs and realities of long-term care facilities.

CHAPTER 6 – CONCLUSION

This chapter provides an overview of the findings from the research study. Both strengths and limitations are examined, and recommendations for education, policy, practical application, and subsequent research are presented.

6.1 Summary of the Findings

In this exploratory descriptive qualitative research study, the focus was on exploring the perceptions of long-term care nurses in Malta concerning disaster risk awareness and disaster nursing preparedness and management. The research study, which explored the nuances of the nurses' roles and preparedness in the event of catastrophes and emergencies, conducted face-to-face interviews with eight charge nurses, unveiling three predominant themes and associated sub-themes.

In the context of disaster risk awareness, findings revealed it is crucial for nurses in long-term care facilities to be well-informed about potential disasters in their specific locations. This knowledge enables them to develop proactive strategies and respond effectively during emergencies. Understanding the risks and their potential consequences is vital for enhancing nurses' preparedness and response capabilities. Additionally, nurses have a crucial role in ensuring safety during crises. They are tasked with a wide range of responsibilities, from providing immediate medical care to managing patient evacuations. A significant emphasis is placed on prioritising patient safety and facilitating effective communication, particularly with those most vulnerable. The study's discussions also highlighted an immediate need for specialised training, emphasising nurses' adaptability and preparedness in difficult situations.

Considering the unique challenges long-term care facilities face, especially due to their distinct clientele and operational demands, there is a pressing need for a holistic approach to disaster nursing. This approach should cover the spectrum from risk

assessment to mitigation and collaborative responses. While participants recognised the advancements in building resilience, they also pointed out ongoing challenges in ensuring these facilities are adequately protected against a range of disaster scenarios. Overall, the research underscores the crucial role of nurses in disaster scenarios within long-term care settings, emphasising the continuous demand for education and necessary resources.

6.2 Recommendations for Education

A pivotal recommendation emerging from this research is the call for robust foundational training. Such training accentuates the necessity for a comprehensive curriculum that moves beyond isolated disaster scenarios, opting for an interconnected strategy. This approach can potentially be realised by embedding tailored training modules into nursing curricula, fostering an environment that is more conducive to grasping the myriad influences – personal, cultural-historical, and global – that shape the perceptions of nurses in Malta. In tandem, the proposal for scenario-based simulations can serve as a benchmark for evaluating and bolstering readiness. Equally salient is the emphasis on cultural sensitivity and historical narratives. By seamlessly integrating cultural sensitivity training and actively engaging with Malta's rich tapestry of cultural and historical narratives, institutions can fashion a more relatable and efficacious training framework. The professional development and protocol review component further underscores the importance of introducing dedicated continued professional development (CPD) programs, particularly those centred around disaster awareness, to facilitate a better understanding and adaption to the ever-shifting disaster landscapes. Finally, localised, and comprehensive risk assessment advocates for amalgamating detailed risk assessment outcomes into the disaster management

curriculum, ensuring frontline healthcare workers are primed with knowledge pertinent to their work milieu.

6.3 Recommendations for Policy

From a policy-oriented standpoint, the professional development and protocol review component explicitly elucidates the need for cyclical reviews and rejuvenation of extant disaster preparedness protocols. In a rapidly evolving world marked by unforeseen challenges, such as the COVID-19 pandemic, this aspect cannot be overemphasised. Additionally, the necessity of institutional protocols and specialised disaster response teams becomes evident. This recommendation underscores the essence of crystallising institutional protocols and orchestrating specialised disaster response teams. The latter, equipped with exhaustive training and an unambiguous leadership structure, can significantly enhance response efficacy. Furthermore, the localised and comprehensive risk assessment beckons the creation of a mandate for nuanced risk assessments, tailored for Malta's long-term care facilities, addressing its unique challenges.

6.4 Recommendations for Practice

On the practical front, collaboration emerges as a critical component of effective disaster management. For instance, recent workshops that emphasise the importance of identifying the roles and responsibilities of entities involved in tsunami response have underscored the need for securing adequate funding and developing a national tsunami response plan. Such efforts, including initiatives like the CoastWAVE Project workshop held in Malta in 2023, serve as prime examples of bringing various stakeholders together to voice their concerns, and opinions, and share ongoing efforts. This spirit of collaboration needs to be emulated and integrated into broader disaster management strategies.

Multidisciplinary collaborations between healthcare professionals and emergency response agencies should be encouraged, with clear roles delineated to enhance response efficacy. The establishment of dedicated disaster response contingents, supported by comprehensive training and clear leadership, is essential. Evacuation plans should be developed at both ward-specific and facility-wide levels to address the complexities of evacuation in long-term care settings. Practical collaboration with external risk assessors should also be pursued to gain diverse perspectives on the unique challenges in these facilities.

6.5 Recommendations for Future Research

The current focus on nurses in understanding disaster preparedness in Malta's long-term care facilities suggests a need for more inclusive research. Future studies might benefit from incorporating perspectives from auxiliary staff, administrators, patients and their families, and other healthcare professionals such as physicians, therapists, and pharmacists, providing a richer understanding of disaster preparedness dynamics in Malta. Additionally, the recent extensions in the facility opened in 2020 remain unexplored in the current study, presenting an avenue for understanding preparedness in newer versus older settings. Lastly, integrating quantitative methods, such as structured questionnaires, could add empirical depth, allowing for precise identification of strengths and weaknesses in disaster preparedness levels. In essence, while the current study provides valuable insights, there are several dimensions yet to be explored in understanding disaster preparedness in Malta's healthcare facilities.

6.6 Strengths

This ground-breaking study is the first to explore the perspectives of nurses in Malta on disasters. It fills a notable gap in academic discourse, setting a foundation for future research in this area. The methodological robustness of the research is enhanced

by using a semi-structured interview guide and a pilot study. These tools ensure the reliability and consistency of the data, enhancing the overall strength of the methodology. The study's comprehensive yet targeted approach ensures that the findings are relevant to Malta's long-term care facilities, emphasising both depth and breadth. A notable strength is the research's cohesiveness; the findings align directly with the study's objectives, highlighting its clarity and precision.

6.7 Limitations

This research, aiming to explore nurses' disaster preparedness perceptions in a long-term care facility in Malta, used an EDQ approach. While rich in detail, its exclusive qualitative focus might miss broader insights that a mixed-method approach could offer. Given that it is the researcher's first qualitative study, there could be limitations stemming from inexperience, although expert consultations were sought. The study's emphasis on charge nurses might overlook broader healthcare perspectives. Convenience sampling, while efficient, brings potential biases, possibly affecting the richness of the findings. The study's narrow geographical focus on a long-term care facility might limit its applicability in other institutions, possibly finding the results less relevant. The heavy reliance on personal narratives introduces potential biases.

6.8 Reflections on Learning

Embarking on this qualitative research study that explored nurses' perceptions on disaster nursing in Malta, the researcher found the journey to be filled with a mix of insights and challenges. Employing face-to-face semi-structured interviews, particularly as a newcomer to qualitative research, was daunting. The act of balancing an in-depth exploration with the constraints of time was frequently overwhelming. The researcher often battled the inner impulse to contrast Malta's scenario with past experiences of

disaster preparedness in different countries. A continuous and intentional effort was necessary to ensure an impartial understanding of Malta's unique context.

Yet, these obstacles were balanced by the priceless direction the researcher obtained from academic experts and the clinical literature. Despite facing various challenges, the insights obtained were illuminating, providing a detailed view of disaster preparedness in Malta's long-term care facilities. This newfound understanding is not merely academic for the researcher; it represents a compelling call to action. Reflecting on the entire process, with all its trials and triumphs, it highlights the significance of perseverance, adaptability, and the relentless pursuit of knowledge in the realm of research.

6.9 Conclusion

In an increasingly interconnected and volatile world, the significance of disaster preparedness is paramount. This research study has illuminated the vital role that nurses in Malta's long-term care facilities play in disaster preparedness and response. It has brought to the fore the need for a concerted effort to ensure these frontline professionals are equipped with the necessary knowledge, clarity, and confidence. This is not just a professional imperative but a moral one, aiming to safeguard the safety and well-being of all, especially the vulnerable residents in long-term care facilities.

Through the exploratory lens of this research, the researcher has seen the importance of understanding disaster risk awareness and preparedness from the perspective of those directly involved in providing care during crises. The inductive nature of the research study allowed for the emergence of insights that have been further interpreted in light of theoretical perspectives such as Kolb's Experiential Learning Theory, Hofstede's Cultural Dimensions Theory, and Renn's Risk Management

Theories. While these theories were not the driving force behind the research, they have offered valuable lenses through which to view and contextualise the findings.

The call for robust foundational training, tailored to the unique cultural and operational context of Malta, resonates throughout this research study. Emphasizing scenario-based simulations, cultural sensitivity, and a comprehensive understanding of risk, the study advocates for a holistic approach to disaster nursing education. Policy recommendations stress the need for regular reviews of disaster preparedness protocols and the formation of specialised response teams. In practice, the emphasis is on collaboration, clear role delineation, and comprehensive evacuation planning.

Reflecting on the journey of this research, the insights gained transcend academic boundaries, presenting a compelling call to action. Rigorous training, collaborative efforts, and a holistic view of disaster management are key to building resilience in the face of adversity. The findings from this research study underscore the essential role nurses play as pillars of strength, adaptability, and resilience in crisis situations, highlighting the ongoing demand for their education and empowerment in disaster management.

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APPENDIX 1

Approval by the University of Malta Faculty Research Ethics Committee

University of Malta Mail - FHS-2022-00337 Gaizka Eliza Marie Katsouros

24/10/2023, 10:40



Gaizka Eliza Marie Katsouros

FHS-2022-00337 Gaizka Eliza Marie Katsouros

Paulann Grech <[redacted]>

21 November 2022 at 13:32

To: Gaizka Eliza Marie Katsouros <gaizka.katsouros.10@um.edu.mt>

Cc: Research Ethics HEALTHSCI <research.ethics.healthsci@um.edu.mt>, Anne C Cini <anne.cini@um.edu.mt>

Dear Gaizka,

Thank you for the update. Your recent amendments have been reviewed and approval is granted on behalf of FREC.

Please make sure that the updated documents forwarded to FREC have also been uploaded on the URECA portal, without track changes.
You may continue with your data collection.

Good luck.

Best wishes,

Paulann



Dr.Paulann Grech
Senior lecturer

Department of Mental Health
Faculty of Health Sciences
Room 51, Block A, Level 1
+356 2340 1180

On Mon, 21 Nov 2022 at 11:51, Gaizka Eliza Marie Katsouros <[redacted]> wrote:

Dear Dr. Paulann Grech,

Thank you for the clarification. I've attached the amended document.

Respectfully,
Gaizka Katsouros

On Mon, 21 Nov 2022 at 09:27, Paulann Grech <[redacted]> wrote:

Dear Gaizka,

Thank you for submitting your amended documents. The only remaining point is the interview guide - kindly amend in the same way as you amended the guide for the Focus Group so that it is clear that consent is signed at the start of the interview in the presence of the researcher and not before.

Best wishes,

Paulann

Dr.Paulann Grech



Gaizka Eliza Marie Katsouros <gai[redacted]@um.edu.mt>

FHS-2022-00337 Gaizka Eliza Marie Katsouros

Paulann Grech <paulann.grech@um.edu.mt>

2 May 2023 at 08:00

To: Gaizka Eliza Marie Katsouros <gaizka.katsouros.19@um.edu.mt>

Cc: Research Ethics HEALTHSCI <research-ethics.healthsci@um.edu.mt>, Anne C Cini <anne.cini@um.edu.mt>

Dear Gaizka,

Thank you for the update.

Dear Dr.Cini - thank you for the explanatory email to support Gaizka.

Gaizka's recent amendments have been reviewed and approval is granted on behalf of FREC.

You may continue with your data collection.

Best wishes,

Paulann

[Quoted text hidden]

[Quoted text hidden]

APPENDIX 2A

Recruitment Letter for Participants



Participants` Information Sheet

Dear Participant,

My name is **Gaizka Eliza Marie Katsouros** and I am currently reading for a **Master of Science in Nursing** at the University of Malta. As part of my course requirements, I am conducting a research study entitled, **“An exploration of nurses’ perceptions on disaster risk awareness and disaster nursing preparedness and management in a long-term care facility”**. The aim of this study is to explore the perceptions of nurses on disaster, including their awareness of the natural and man-made hazards in Malta and disaster preparedness and management. The research additionally seeks to enhance comprehension of how nurses employed in long-term care facilities perceive their responsibilities during disasters and emergencies. Your participation in this study would help me to gain a better understanding about nurses’ awareness on disaster risk and disaster nursing preparedness and management in Malta. Furthermore, all data collected from this research shall be used solely for the purpose of this study.

You are being invited to participate in a semi-structured interview exploring your ideas and opinions on disaster nursing, preparedness and management. The interview will take approximately one hour and will be held at a place and at a time most suitable for you as much as possible. You are not obliged to answer all the questions and may withdraw from the study at any time without giving a reason. Furthermore, withdrawal from the study will not have any negative repercussions on you and any data collected will be erased. Data will be stored anonymously if it is impossible to delete (e.g. if it has already been anonymised). Unless you have any objections, this interview will be audio-recorded. I can assure you that confidentiality will be maintained throughout the study and that your identity and personal information will not be revealed in any publications, reports or presentations arising from this research. All data collected will be pseudonymised meaning that the transcripts will be assigned codes and that this data will be stored securely and separately from any codes and personal data. This data may only be accessed by the researcher. The academic supervisor/s and the examiners will typically have access to coded data only. There may be exceptional circumstances which allow the supervisor and examiners to have access to personal data too, for verification purposes. The coded audio-recordings, and transcripts will be stored on the researcher’s personal computer that is password protected and in an encrypted format. Any material in hard-copy form will be placed in a locked cupboard.

In the event that you feel distressed due to participation in the interview, the service of a healthcare professional from Richmond Foundation will be available at +356 21224580 or info@richmond.org.mt without any financial cost on your part.

Participation in this study is completely voluntary and you are free to accept or refuse to take part without giving a reason. A copy of the information sheet and consent form will be provided for future reference. As a participant, you have the right, under the General Data Protection Regulation (GDPR) and national legislation that implements and further specifies the relevant provisions of said regulation, to access, rectify and where applicable ask for the data concerning you to be erased. When no longer required, personally identifiable information will be deleted. Any subsequent anonymised data may be kept indefinitely.

This study has been approved by the Research Ethics Committee of the Faculty of Health Sciences at the University of Malta.

Thank you for your time and consideration. Should you have any questions or concerns do not hesitate to contact me on +356 77076027 or by e-mail gaizka.katsouros@um.edu.mt or my supervisor, Dr Anne C. Cini on +356 0025 0331 or by e-mail anne.cini@um.edu.mt

Yours Sincerely,



Gaizka Eliza Marie Katsouros
Researcher



Dr. Anne Cini
Research Supervisor

APPENDIX 2B

Participants' Consent Form

Participants' Consent Form**An exploration of nurses' perceptions on disaster risk awareness and disaster nursing preparedness and management in a long-term care facility**

I, the undersigned, give my consent to take part in the study conducted by Gaizka Eliza Marie Katsourou. The purpose of this document is to specify the terms of my participation in this research study.

1. I have been given written and verbal information about the purpose of the study and all questions have been answered.
 2. I understand that I have been invited to participate in an interview, in which the researcher will ask questions to explore the perceptions of nurses on disaster, including their awareness of the natural and man-made hazards in Malta and disaster preparedness and management.
 3. I am aware that the interview will take approximately an hour. I understand that the interview is to be conducted at a place and time most suitable for me as much as possible.
 4. I am aware that this interview will be audio recorded and transcribed (written down as it has been spoken).
 5. I am aware that the transcripts will be coded and that this data will be stored securely and separately from any codes and personal data.
 6. I am aware that the researcher is the only person who has access to this data. The academic supervisor/s and examiners will typically have access to coded data only. There may be exceptional circumstances which allow the supervisor and examiners to have access to personal data too, for verification purposes.
 7. I am also aware that the coded audio-recordings and transcripts will be stored on the researcher's personal computer that is password protected and in an encrypted format. Any material in hard-copy form will be placed in a locked cupboard and kept until results are published.
 8. I am aware that my identity and personal information will not be revealed in any publications, reports or presentations arising from this research.
 9. I also understand that I am free to accept, refuse or stop participation at any time without giving any reason. This will have no negative repercussions on myself and that any data collected from me will be erased. Data will be stored anonymously if it is impossible to delete (e.g. if it has already been anonymised).
 10. I also understand that my contribution will serve to benefit the nursing profession to be aware of disaster risk and be equipped before, during and after a disaster. Additionally, it
-

will assist the long-term care facility and policy makers in creating an effective plan that will enhance residents' safety by contributing to and improving disaster management plans and procedures.

- 11 I am aware that there is a minimal risk of personal distressing events, mood, stress and emotional responses during interview. If I feel distressed in any way, I am aware that a healthcare professional from Richmond Foundation can be contacted at +356 21224580 or info@richmond.org.mt at no financial costs on my part.
- 12 I understand that under the General Data Protection Regulation (GDPR) and national legislation that implements and further specifies the relevant provisions of said regulation, I have the right to access, rectify, and where applicable ask for the data concerning me to be erased.
- 13 I also understand that personally identifiable data will be deleted when it is no longer necessary, which should be in April 2023. Any subsequent anonymised data may be kept indefinitely.
- 14 I will be provided with a copy of the information letter and consent form for future reference.
- 15 I have read and understood the points and statements of this form. I have had all the questions answered to my satisfaction, and I agree to participate in this study.

Participant: _____

Signature: _____

Date: _____



Gaizka Eliza Marie Katsouros

Researcher

+356 77070027

gaizka.katsouros.20@unmedu.mt



Dr. Anne Cini

Research Supervisor

+356 9923 0221

anacini@unmedu.mt

APPENDIX 3

Data Collection Tool

“An exploration of nurses’ perceptions on disaster risk awareness and disaster nursing preparedness and management in a long-term care facility”

Interview Guide for the Semi-Structured Interview

The researcher will first offer a brief introduction and overview of the study. In addition, the participant will be made aware that he or she has the option to end the interview at any point or make revisions. The information and consent form will be presented to the participant. Prior to signing the form in the presence of the researcher at the commencement of the interview, the participant will be given the opportunity to raise any questions.

The participant will be given uninterrupted time to discuss the theme, and if necessary, the researcher will probe further for clarification.

Subsequently, the researcher will request that the participant provide their identity, job title, and duration of employment as a charge nurse at the long-term care facility.

1. Can you briefly describe your job at the facility?
 - a. What are your responsibilities?
 - b. What are your challenges?

Nurses’ awareness of potential natural and man-made hazards in Malta and disaster preparedness and management.

2. What kinds of disasters do you believe could occur in your country? Or perhaps have occurred in recent years?
 - a. How can these affect you in your work?
3. Can you share some of your disaster-related clinical practice experiences, if there are any?
4. What is your understanding of nursing disaster preparedness plans?
5. Are you aware of any disaster plans worldwide in healthcare settings? Have you ever come across or experienced any disaster plans in other countries?
 - a. Do you have any knowledge of such plans in your area of work?
 - b. Have any of your coworkers or you participated in disaster management plans?

Nurses’ role in disaster situations at a long-term care facility

6. Could you share your thoughts on the role of nurses in disaster?
7. In what way do you feel this task is different from what you typically do?
 - a. As a nurse, would it be typical for you to handle emergency medical services in a catastrophe?
 - b. If not, what are the difficulties?
 - c. If yes, what helps you manage the situation?
8. Do you feel equipped to provide nursing care in a disaster?
 - a. What else can be done?
9. What kind of care will the people living in this facility need both during and after a disaster, in your opinion?
 - a. Has your institution made resources available to satisfy this need?
 - b. For example, is there an evacuation plan for the residents during a disaster? Is there a comprehensive relocation policy in place?
10. What can you recommend regarding the way forward in disaster nursing and disaster risk awareness?

Is there anything you wish to add or explain at the conclusion? I appreciate your participation in this study.

APPENDIX 4

Letter of Support from Richmond Foundation

University of Malta Mail - Request for Support from Richmond Foundation

18/11/2022, 14:19



Gaizka Eliza Marie Katsouros <gaizka.katsouros19@um.edu.mt>

Request for Support from Richmond Foundation

4 messages

Gaizka Eliza Marie Katsouros <gaizka.katsouros19@um.edu.mt>

16 September 2022 at 09:48

To: cec@richmond.org.mt

Dear Ms Calleja Bitar:

My name is Gaizka Eliza Marie Katsouros and I am a student presently reading for a Master of Science in Nursing at the University of Malta. I am currently conducting a research study entitled "**An exploration of nurses' perceptions on disaster risk awareness and disaster nursing preparedness and management in a long-term care facility**". The study is being supervised by Dr. Anne Cini.

I am attaching a letter providing detailed information about the study and the method of data collection. With this email I am therefore requesting Richmond Foundation to provide support / therapy should the participant need it, due to the minimal risk of personal distressing events; mood, stress, and emotional responses in participating in this research.

If you need any further information. do not hesitate to contact me or my supervisor.

Yours sincerely,
Gaizka Eliza Marie Katsouros
 Master of Science in Nursing student

Request_Letter_for_Support_Richmond_Foundation.pdf
137K

Gaizka Eliza Marie Katsouros <gaizka.katsouros19@um.edu.mt>

23 September 2022 at 09:23

To: cec@richmond.org.mt

Dear Ms. Calleja Bitar,

Just a reminder regarding email below please. Thank you.

Regards,
 Gaizka Katsouros
 [Quoted text hidden]

Request_Letter_for_Support_Richmond_Foundation.pdf
137K



Gaizka Eliza Marie Katsouros <gaizka.katsouros.19@um.edu.mt>

Request for Support from Richmond Foundation

Daniela Calleja Bitar <daniela.calleja@richmond.org.mt>

28 September 2022 at 07:58

To: Gaizka Eliza Marie Katsouros <gaizka.katsouros.19@um.edu.mt>

Cc: Donald Buhagiar <doh@um.edu.mt>, Lynn Sammut <lynn@um.edu.mt>

Dear Ms. Katsouros,

Your request has been approved.

Good luck with your studies.

Regards,

Daniela

Daniela Calleja Bitar

Chief Operations Officer



Richmond Foundation

Head Office and Training Centre

MCE House,

Triq l-Industrija

Qormi QRM3000

t: +356 21669150 m: +356 99255723

e: daniela.calleja@richmond.org.mt | fb: Richmond Foundation - Malta

This message may contain confidential information and is intended solely for the individual named. If you are not the intended recipient you should not disseminate, distribute or copy the contents of this e-mail. If you have received this message by mistake, please notify the sender immediately, and permanently destroy both the message and its contents. The security, reliability of delivery and integrity of this e-mail transmission cannot be guaranteed as information could be modified in transit or may contain viruses. The sender, therefore,