

**The Missing Link: The Significance of Mental Health Screenings Post Natural Disasters:
An Integrative Review**

A Scholarly Project

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Abstract

Following a natural disaster, the emotional and psychological demands on survivors are great. In addition to generating suffering, such as bodily injuries, natural disasters impact disaster victims' lives in catastrophic ways, causing loss of homes, property, and jobs; food insecurities; transportation disruption; and communication difficulties. These events disrupt communities, exacerbating adversities to physical and psychological well-being. This presents a critical need for effective mental health response. Screening specific to post-disaster trauma may assist in identifying clients who require prioritized mental health care. Depression, anxiety, and posttraumatic stress disorder are three common mental health issues that are often triggered by disasters. In addition, children, the elderly, those with preexisting mental illness, and those of a lower socioeconomic status are at greater risk for mental health exacerbations post-disaster. Health care providers play an important role in the recognition of post-disaster stress. To date, there are no guidelines or standards to address this pressing concern. A call to action is needed in support of mental health screenings post-disaster, the missing link.

Keywords: mental health, natural disaster, post-disaster, healthcare providers, mental health screenings

Table of Contents

Abstract..... 2

List of Tables 5

List of Figures 6

List of Abbreviations 7

The Missing Link: The Significance of Mental Health Screenings Post Natural Disasters: An Integrative Review 8

 Introduction..... 8

 Background..... 9

 Problem Statement 18

 Purpose of the Project 19

 Review Question..... 19

 Defining Concepts and Variables 20

 Rationale for Conducting the Review..... 21

 Inclusion and Exclusion Criteria..... 22

 Conceptual Framework..... 22

 Cooper, Whittemore and Knafl..... 23

Section Two: Search Strategies 28

 Search Strategy 28

 Melnik Pyramid and the Rapid Critical Appraisal..... 29

 PRISMA..... 29

 Quality Assurance..... 29

 Literature Categories..... 30

 Synthesis 36

Section Three: Managing The Collected Data..... 38

Section Four: Quality Appraisal 39

 Sources of Bias 40

 Internal Validity 41

 Appraisal Tool 42

 Reporting Guidelines 42

 Applicability of Results 42

MENTAL HEALTH SCREENINGS POST NATURAL DISASTERS

	4
Section Five: Data Analysis and Synthesis.....	43
Data Analysis Methods.....	43
Synthesis.....	44
Section Six: Discussion.....	52
Dissemination Plan.....	53
Conclusion.....	56
References.....	58
Appendix A.....	66
Appendix B.....	67
Appendix C.....	68
Appendix D.....	69

List of Tables

Table 1. Inclusion and Exclusion Criteria.....26

List of Figures

Figure 1. Flowchart of Themes Related to Post-Disaster Mental Health50

List of Abbreviations

Centers for Disease Control and Prevention (CDC)

Collaborative Institutional Training Initiative (CITI)

Crisis Counseling Assistance and Training Program (CCP)

Federal Emergency Management Agency (FEMA)

Integrative review (IR)

International Trauma Questionnaire (ITQ)

Miracle Question Intervention (MQ)

Posttraumatic stress disorder (PTSD)

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)

World Health Organization (WHO)

**The Missing Link: The Significance of Mental Health Screenings Post Natural Disasters:
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Introduction

Disasters are a force of nature that disrupts humans and wildlife. Natural disasters are catastrophic events like earthquakes and hurricanes caused by natural processes of the Earth that result in significant damage and disruption (Beaglehole et al., 2018). Disasters may cause stress, injury, death, broken communities, and loss of income. Often, basic necessities of food, shelter, and water are suddenly taken away, leaving families homeless and stranded (Becker-Blease et al., 2023). Throughout the last decade in the United States, there have been over 1,000 declared natural disasters (Hamblen & Mueser, 2021). According to the World Health Organization (WHO, n.d.) more than 2.6 billion people have been impaired by common disasters such as earthquakes, hurricanes, tsunamis, cyclones, heat waves, floods, or severe cold weather over the last 10 years. These events not only disrupt the daily lives of individuals, but also exacerbate any adversities or obstacles to physical and psychological well-being. Furthermore, disaster effects may be worse in specific subpopulations that are more vulnerable to the outcomes of disasters. Children, individuals from low socioeconomic communities, the elderly, and those with preexisting mental illness have an increased risk of developing or worsening mental health conditions after a disaster.

Following a large natural disaster, the emotional and psychological demands on individuals are great and change with each stage of recovery. In addition to generating suffering such as bodily injuries, natural disasters impact disaster victims' lives in catastrophic ways, causing loss of homes, property, and jobs; food insecurities; transportation disruption; and communication difficulties.

Health care providers play an important role in the recognition of post disaster-related mental health issues. The acute and chronic effects of posttraumatic stress disorder (PTSD), anxiety, and depression in children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness may appear through screening. Screening specific to post-disaster trauma may assist providers in identifying clients who require prioritized mental health care, especially among these populations (International Society for Traumatic Stress Studies, n.d.).

This integrative review (IR) focuses on mental health screenings specific to post-disaster trauma in high-risk populations: children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness. This IR will explore nursing scholarship, inspire research, strengthen clinical practice, and promote guidelines for post-disaster mental health screenings.

Background

Natural disasters, characterized by their rapid and intense impact on the environment and society, constitute a persistent and escalating global challenge (Davis & Alexander, 2018). Defined by the United Nations Office for Disaster Risk Reduction (2004) as severe disturbances that surpasses a community or society's coping capacity, disasters result in significant human, economic, and material losses. The WHO (n.d.) further underscores that disasters necessitate noticeable and immediate assistance due to their size and rapidity.

Year after year, communities face the abrupt and often devastating consequences of natural disasters, profoundly affecting individuals' physical and mental well-being (Makwana, 2019). Amidst economic and social disruptions, disasters have taken a greater psychological toll on individuals and communities, sparking a critical need for effective mental health responses.

Climate change has intensified storm patterns, and as a result, storms have become more erratic and severe, exacerbating their psychological impact on people. The aftermath of such calamities commonly ushers in various mental health challenges, including heightened stress, insomnia, and risky coping behaviors (Beaglehole et al., 2018). Challenges range from finding new housing and negotiating with insurance adjusters to meeting heightened workplace requirements or seeking new employment (Centers for Disease Control and Prevention [CDC], n.d.-a). The psychological implications and aftermath of natural disasters necessitate focused attention. However, a crucial aspect often overlooked in disaster response strategies is the need for post-disaster mental health screenings, which are vital to providers' ability to address the psychological aftermath of disasters. Despite their significance, mental health screenings are not consistently integrated into disaster response efforts (Sullivan et al., 2021). The absence of screenings represents a substantial gap in providing comprehensive support to individuals facing mental health challenges post-disaster. Addressing this gap is significant to the overall well-being and resilience of disaster-affected populations.

Disasters in the United States are many. In fact, over the last few decades, the number of disasters has increased at an alarming rate. Disasters create pressing burdens on communities, especially in the months immediately following. One burden of particular interest is the disasters' impact on mental health. Mental health issues in the US are at epidemic proportion—and natural disasters are only further exacerbating this crisis.

Disaster response starts at the local level; it is notable however that there is no specific victim support for mental health. Once disaster support is exhausted on the local and state levels, the federal government becomes involved. The president then has the authority to support recovery, including through mental health assistance. States may request the activation of the

Crisis Counseling Assistance and Training Program (CCP). CCP monetary grants or donations assist victims and are used short term to launch community-based counseling and mental health services for natural disaster survivors. It is interesting, however, that CCPs do not provide reporting on the long-term impact on community outcomes specific to mental health after a natural disaster. During the September 11, 2001, tragedy, no data were collected to determine if the 155 million dollars in federal funding for mental health, secondary to terrorist attacks, were effective. The state sent out questionnaires to CCP participants, and it was recorded that services were accessible, acceptable, and useful; however, no documentation exists on whether these services affected survivor outcomes (Hamblen & Mueser, 2021).

FEMA, as a disaster response agency, does many things in the wake of a disaster; however, mental health is often neglected in the immediate aftermath of an event. Experiencing multiple losses and traumatic events in quick succession can lead to complicated or traumatic grief that is often poorly managed from a mental health perspective, making it challenging for individuals to recover from psychological distress as their mental condition is not identified in a timely and appropriate manner (CDC, n.d.-a). Moreover, disasters not only impact the people living in the affected area but also their family and friends living elsewhere who may feel equally distressed. Disruptions in communication caused by disasters, such as interruptions in cell phone connections and electricity services, can exacerbate this distress. Though their lives may not be threatened, it can be a traumatic experience for loved ones to know that their family and friends are in the disaster area but be unable to communicate with them for an extended period to verify their well-being (Cherry & Gibson, 2021).

Disasters or traumatic events can have a significant impact on mental health. Studies have shown that some individuals develop resilience after a disaster, gaining skills and knowledge that

help them cope in the future. However, in some cases, negative mental health outcomes are associated with traumatic disaster-related experiences (Cherry & Gibson, 2021). These outcomes can include PTSD, anxiety, and depression, especially in children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness, as well as physical symptoms such as headaches, anger, and substance abuse problems. Unfortunately, many survivors do not receive counseling or treatment to help them recover from the trauma they experienced (Cherry & Gibson, 2021).

Anxiety

Anxiety is the persistent state of heightened apprehension, worry, and fear and may involve physical symptoms like increased heart rate, sweating, rapid breathing, trembling, muscle tension, and fatigue (Makwana, 2019). Anxiety is a response to anticipated future threats, whether real or perceived, and can significantly disrupt daily functioning and impair overall well-being. Makwana (2019) highlighted that natural disasters' unpredictability and potential for widespread harm instigate anxiety among individuals and communities. The anticipation of disaster, its immediate occurrence, the loss of loved ones, and the lingering fear of future disasters create a state of constant anxiety. People dread the potential loss of life, property, and security, leading to persistent worry and emotional distress. Disasters can exacerbate anxiety as individuals grapple with the trauma, loss, and rebuilding of their lives, creating an enduring mental and emotional strain that persists over extended periods. Anxiety is a problematic mood that shifts one's focus to a problem. Ecological disconnection due to climate change and pandemics has resulted in a situation of turmoil to the world, which manifests in anxiety. Individuals' sense of security and tradition has been shaken by the increased pace and depth of

change. This challenges individuals' habitual actions and may lead to confusion and anxiety in various situations (Lafontaine, 2022).

There are several types of anxiety, state anxiety occurs when a state of mind is characterized by intense worry. "State anxiety," a common situation that people may experience in daily life, occurs when individuals face an unwanted or dangerous situation. When exposed to danger, a person may become alert and experience cognitive tension or restlessness, as well as physical symptoms such as sweating, flushing, or trembling. However, these effects are considered positive and often go away once the stressor is gone. Alternatively, "trait anxiety" is a more permanent type of anxiety that affects a person's entire life. This anxiety is associated with ongoing stressful situations and varies significantly from one person to another. Disasters are known to trigger trait anxiety since they can happen anywhere and at any time (Makwana, 2019). Research on disaster anxiety has used various instruments such as Post-Traumatic Stress Diagnostic Scale, The Profile of Mood States, The Disaster Mental Health, Patient Health Questionnaire for Depression and Anxiety, and Multidimensional Anxiety Scale for Children (Güzel, 2022). However, a crucial gap remains in understanding the specific significance of mental health screenings, particularly those focusing on anxiety, in the aftermath of natural disasters. While acknowledging the prevalence of anxiety and its impact is crucial, there lacks comprehensive exploration into the efficacy and necessity of mental health screenings post-disaster and targeted screening measures that can efficiently identify and address anxiety-related issues in a timely manner.

Following Hurricane Maria in 2017, children who lived in the most distressed, lower-income areas experienced tremendous social and environmental devastation. They endured a situation that created confusion and anxiety when their lives were interrupted by the sudden loss

of homes, personal possessions, loved ones, and much more (Alto et al., 2021). Events such as Hurricane Maria demonstrate how the aftermath of a natural disaster can result in hardship for families. Research indicates that children and adults may experience anxiety, fear, sadness, sleep disturbances, nightmares, and nervousness after a disaster (CDC, n.d.-b). Interestingly, children who experience natural disasters are at an increased risk for developing mental illnesses such as anxiety, depression, and PTSD (CDC, n.d.-b).

Depression

Depression is a mental health problem manifesting as persistent feelings of sadness, hopelessness, and a lack of interest or pleasure in usual activities (Newman et al., 2022). Some common symptoms may include tiredness despite having adequate sleep; trouble remembering details; difficulty making decisions, concentrating, or falling and staying asleep; becoming easily irritated or frustrated; experiencing anxiety, and developing feelings of worthlessness, powerlessness, and guilt (CDC, n.d.-a).

Disaster survivors are most vulnerable in the immediate recovery period post-disaster; some may have trouble sleeping in addition to increased stress. Natural disasters and intricate worldwide emergencies have led to an increase in mental health issues in communities. Doubts that life would return to normal may result in despondency and sadness if these significant life changes are met with ongoing difficulties and frustrations, potentially leading to depression (Hamblen & Mueser, 2021).

The extent of the destruction during a disaster and one's degree of exposure has serious ramifications on people's lives post-disaster and in the long term. In a study by Sullivan et al. (2021), interviews revealed that depression rates were higher following Hurricane Katrina compared to other hurricanes, most likely due to the extensive displacement and the large

amount of personal devastation. According to a brief psychiatric screen, 31% of residents in areas affected by Katrina reported symptoms indicating depression or anxiety approximately 6 months after the event (Sullivan et al., 2021). These findings indicate that depression is a major problem in post disaster and may persist long after people have appeared to recover from the loss. Additionally, another study found that 2.8% victims of a natural disaster reported having suicidal thoughts in the past year, with 1.0% reporting having a plan to take their own life and 0.8% reporting attempting suicide (Hamblen & Mueser, 2021). Depression can hinder a person's ability to recover and is the most common mental health concern post-disaster (Hamblen & Mueser, 2021).

PTSD

PTSD is a severe mental health disorder that develops after an individual is exposed to a traumatic event, such as a natural disaster, and often manifests as intrusive memories, nightmares, severe anxiety, hypervigilance, and uncontrollable thoughts (Nzayisenga et al., 2022). PTSD appears with a range of distressing symptoms that significantly impact an individual's daily life. According to the *Diagnostic and Statistical Manual of Mental Disorders* (5th edition), PTSD symptoms are intrusive thoughts, avoidance, negative mood and cognition changes, and hyperarousal (American Psychiatric Association, 2013). Individuals who have experienced devastating effects of a natural calamity like loss of loved ones, destruction of homes, and exposure to life-threatening situations suffer acute distress during and after the event (Medline Plus, 2020). Individuals may experience flashbacks of the disaster, struggle to cope with the memories, avoid reminders of the event, and constantly remain on edge, expecting another catastrophe. PTSD itself is not a life-threatening condition in the direct sense like a physical injury or illness, but the persistent symptoms of intrusive memories, flashbacks, severe

anxiety, and emotional numbness can significantly impair daily functioning, disrupt relationships, hamper employment, decrease overall quality of life, and lead to self-harming behaviors. In certain cases, the trauma endured during the disaster might resurface memories of earlier traumatic events, amplifying the distressing experience and leading to adverse mental health outcomes. Individuals affected by severe trauma may struggle to recover autonomously, and even if they do, specific triggers can reignite their trauma response, pushing them back into a “fight or flight” mode that cause hypervigilance and extreme mental instability.

Research accentuates that PTSD is not only about the direct impact of the disaster but also about the lasting repercussions that reverberate through an individual’s life (Medline Plus, 2020). Notably, individuals with preexisting mental health conditions face a heightened risk of developing PTSD or other mental health disorders in the aftermath of a disaster (Medline Plus, 2020). This interplay between preexisting mental health conditions and the trauma of a disaster further exacerbates the challenges faced by individuals in post-disaster scenarios. Sullivan et al. (2021) explored the devastation from Hurricane Katrina and focused on the experiences of veterans in a substantial cohort comprising veterans both with ($n = 249$) and without ($n = 250$) preexisting mental health conditions. The participants were surveyed and meticulously screened for a range of mental health conditions, including PTSD, depression, generalized anxiety disorder, and panic disorder. The findings were striking, illuminating that among those with preexisting PTSD, the odds of screening positive for any new mental illness were 11.9 times higher following a natural disaster (Sullivan et al., 2021). The complex dynamics of PTSD post-disaster emphasize that people with mental health conditions have heightened vulnerability to new conditions or exacerbation of current disorders in disaster situations. While existing research sheds light on the prevalence of and risk factors associated with PTSD, a more detailed

exploration of the psychological mechanisms that underpin the development and persistence of PTSD, particularly in the context of natural disasters is needed to investigate mental health screenings as an intervention. Understanding the role of mental health screenings is vital for developing targeted interventions and support mechanisms that can alleviate the burden of PTSD and enhance the resilience of individuals facing post-disaster mental health challenges (Lowe et al., 2020).

Post-Disaster Trauma Screening

Repeated exposure and susceptibility to disaster trauma in today's climate is pivotal to future involvement and vitality of life (Clapp et al., 2019). Having the correct tools in place to approach victims recovering from a traumatic disaster allow providers to promote resiliency and develop tools for prospective crises and disasters (CDC, n.d.-a). To provide the best mental health service after a disaster to the public, health care professionals must have a baseline understanding of the demographics of the post-disaster population and the most vulnerable citizens. These individuals are identified as the most at risk for mental health strain and disturbance. A trauma screening that supports a mental health assessment prior to a disaster event may define a more susceptible population (Schmidt & Cohen, 2020).

An online psychological health assessment was designed following an August 2016 flood in southern Louisiana (Cherry et al., 2020). The assessment measured the impact of the flood across several parishes in greater Baton Rouge. Data were analyzed for signs of PTSD, depression, and anxiety in the respondents. The following factors most affected the well-being of the residents exposed to the 2016 flood: (1) current flood exposure, (2) recovery stress, and (3) prior flood experience. Current flood exposure was defined as structural damage due to water entering a resident's dwelling. Participants with flooded homes and properties displayed elevated

symptoms for all mental health disorders, in comparison to non-flood victims. Recovery stress was a variable due to some participants' need to rebuild and repair flood-damaged properties. Those with damaged homes experienced a considerable loss of earthly possessions. Those who decided to rebuild faced extensive home repairs, to include the gutting of damaged materials, remove flooring, and electrical and plumbing work, and needed to engage with contractors for restoration purposes. Recovery process stress was substantially associated with PTSD, anxiety, and depression. Previous disaster exposure also plays a part in post-disaster mental and behavioral health, although there is a lack of research addressing the psychological effects of multiple hurricanes and floods (Benight, 2004; Bukvic et al., 2018; Cherry et al., 2020). This research confirmed the correlation of post-disaster stressors with current mental health conditions (Cherry et al., 2020). Lastly, regression analysis confirmed the association of age, gender, and flood status to mental health complications. Yet, previous flood involvement was not a predictor of current disaster symptoms. The author expressed that recovery stress detailed elevations in symptoms of all three categories measured, 2 years following the storms impact. Disaster assessment tools can assist health care workers in identifying and improving the lives of survivors combating post-disaster challenges (Cherry et al., 2020)

Problem Statement

In the aftermath of natural disasters, the emotional and psychological needs of the community are many. Without effective post-disaster mental health screenings of high-risk populations, there is a greater incidence of PTSD, anxiety, and depression. These mental health issues add a great burden to population health. Mental health screenings, specific to post-disaster trauma, should be considered by clinicians to reduce and treat the incidence of PTSD, anxiety,

and depression in vulnerable populations, which include children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness (CDC, n.d.-a).

Purpose of the Project

This IR synthesized information from studies about post-disaster mental health issues, high-risk populations, and screenings specific to post-disaster trauma. The purpose of the IR was to analyze mental health screenings specific to post-disaster trauma in high-risk populations, which include people with preexisting mental health issues, children, the elderly, and those from low socioeconomic circumstances. Screening constitutes a proactive approach to support a reduced incidence of PTSD, anxiety, and depression in post-disaster victims. The intended outcome was to standardize screenings specific to post-disaster trauma among high-risk populations to reduce the incidence of common mental health issues following a disaster. The information gathered for this IR will be gleaned to inform stakeholders about screenings that are specific to mental health issues and encourage the use of screenings to combat the growing mental health crises.

Review Question

For high-risk populations such as people with preexisting mental health issues, children, the elderly, and those of low socioeconomic status, will post-disaster mental health screenings decrease the incidence of anxiety, depression, and PTSD compared to people who do not receive screenings?

The following questions will guide and focus this IR.

1. Which mental health illnesses have the highest incidence of exacerbation following a disaster?

2. Which populations are at highest risk for mental health illness exacerbation following a disaster?
3. Which post-disaster trauma screenings are effective in identifying people with mental health illnesses in support of prioritized mental health interventions?

Goals of the Project

The goals of this project were:

1. to provide an IR of literature related to mental health screenings post-disaster,
2. to provide recommendations for clinicians to inform policy and practice, and
3. to establish formal standards and guidelines to drive policy development and future research on the subject.

Defining Concepts and Variables

Defining concepts and variables is critical to allow readers to understand a review. By having insight into key concepts and variables, the reviewer can better understand the IR in context.

Concept: Mental Health

Mental health constitutes a person's emotional, psychological, and social well-being and their ability to handle stress, relate to others, and function in daily life (Sullivan et al., 2021). This IR recognizes PTSD, anxiety, and depression in association with post-disaster events. Although not traditional concepts, these mental health diagnoses can vary among individuals as they relate specifically to post-disaster situations.

Variable: Vulnerable Populations

Children, elderly people, individuals of low socioeconomic status, and those with preexisting mental health conditions or other difficulties, are particularly susceptible to the

adverse effects of natural disasters on their mental health (Baggerly et al., 2022; Le Roux & Cobham, 2022).

Rationale for Conducting the Review

Natural disasters are an international problem that often lead to a negative outcome. Commonly, immediately following a disaster, the focus is on managing life-threatening injuries and illness. Less severe injuries and illnesses such as mental health problems are considered less of a priority in the short term. However, studies have indicated that the mental health of children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness needs more exploration, as untreated behavioral health disorders may lead to poor short- and long-term physical and psychological health patterns (Baggerly et al., 2022; Cherry & Gibson, 2021; Le Roux & Cobham, 2022). The lack of standards, policies, and guidelines concerning post-disaster mental health screenings limit clinician involvement and affect the level of care and recovery in suffering communities.

Mental health can influence behaviors directly related to compliance with medication regimens and medical treatment, which can be difficult for disaster survivors (Cherry & Gibson, 2021). This IR sought to reveal the need for awareness among policymakers, clinicians, and civilians to support the utilization of post-disaster mental health screenings. The IR supported the need for mental health screenings in post-disaster trauma victims. Specifically, the use of screenings among children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness was reviewed. The review gave further credence to the need for prioritized support and understanding of exacerbated mental health diagnoses such as PTSD, anxiety, and depression in the post-disaster timeframe.

Inclusion and Exclusion Criteria

To confirm that the information provided in the IR is relevant, inclusion criteria were considered.

Included articles were published from 2018 to 2023, written in English, peer reviewed, and available in full text. Studies with unfinished research; articles not in the English language or published before 2018. **Table 1**

Inclusion and Exclusion Criteria

Criterion	Included	Excluded
Publication date	2018 to 2023	Prior to 2018
Language	English	Language other than English
Level of evidence	Level 1 to Level 6	Level 7
Population	Children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness including all ethnicities and races affected by natural disasters	People affected by nonnatural disasters or natural disasters without damage, people of higher socioeconomic status
Availability	Containing titles, abstracts, and full text available online	Not peer reviewed
Article type	Qualitative and quantitative studies	No full text available
Research completion	Articles with completed research	Dissertations
		Articles with unfinished research

Conceptual Framework

The IR offers a synthesis of diverse findings and presents the current state of a phenomenon, quality of evidence, gaps in literature, and future steps for research and practice (Toronto & Remington, 2020). The conceptual framework guiding this review is anchored in two critical methodologies: the IR framework by Cooper, Whitemore and Knafl (2005) and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. These frameworks provide a structured and systematic approach to conducting comprehensive reviews of literature, ensuring rigor, transparency, and meaningful synthesis of evidence.

Whittemore and Knafl (2005) presented a well-structured methodology that guides researchers through the process of conducting an IR. This framework involves defining the research question, setting inclusion and exclusion criteria, systematically searching and selecting relevant literature, analyzing and synthesizing the data, and presenting the findings. It emphasizes the importance of thorough analysis and synthesis, allowing for a deeper understanding of the topic.

Cooper, Whittemore and Knafl

The framework for this study aligns seamlessly with Cooper's original IR framework (Whittemore & Knafl, 2005) but provides more specific guidance on the practical steps involved in conducting an IR. The framework helps to define the scope of the review, establish clear criteria for article selection, and structure the analysis of the selected articles. This framework ensures a rigorous and transparent process throughout the study, enhancing the reliability and validity of the findings. The comprehensive approach aligns with the study's objective, which is to provide a comprehensive overview of the current state of knowledge on mental health screenings in post-disaster scenarios while adhering to rigorous research standards and guidelines.

Problem Identification Stage

At the heart of the IR lies the problem identification stage, which involves defining the research question or problem statement. The problem in this IR is the mental health challenges individuals face in the aftermath of natural disasters and the role of mental health screenings in addressing these challenges. The research seeks to explore the effectiveness of mental health screenings in identifying and addressing post-disaster mental health issues (Whittemore & Knafl, 2005). This stage establishes the foundation for subsequent literature search and data evaluation, ensuring a clear focus on the study's objectives. Mental health screenings are an essential topic

in disaster management, and investigation is warranted to reduce the chances of missed care that increases the risk of adverse mental health outcomes that affect people long after disasters have occurred (Goldmann et al., 2021).

Literature Search Stage

In the literature search stage, the researcher collects relevant research articles and evidence (Whittemore & Knafl, 2005). A comprehensive search strategy was devised to identify articles addressing post-disaster mental health and mental health screenings. The goal of the search strategy is to cast a wide net to ensure all relevant literature is included in the analysis. This approach aligns with the study's aim to provide a comprehensive overview of the current knowledge in the field, ensuring no pertinent evidence is overlooked. The search strategy for the IR adheres further to the PRISMA statement, a recognized guideline for conducting systematic reviews, thus ensuring transparency and reproducibility in article selection. The review considers primary and secondary research articles focusing on mental health screenings in post-disaster settings obtained through the search strategy discussed in Section Two.

Data Evaluation Stage

During the data evaluation stage, the reviewer meticulously assesses the quality and relevance of the selected articles. The PRISMA statement guides this process by providing a structured approach to reviewing and reporting the articles. It ensures that each article will be rigorously scrutinized for its methodological soundness, relevance to the research question, and contribution to the synthesis (Page et al., 2021). It is essential to evaluate the selected articles for their capacity to shed light on the effectiveness of mental health screenings in post-disaster scenarios. The PRISMA statement ensures that the reviewer provides explicit details about how articles were identified and assessed for inclusion in the analysis. This transparency is vital for

ensuring the study's reproducibility and reliability. Researchers minimize bias by selecting articles based on predefined criteria. Each article is rigorously assessed for its methodological soundness, ensuring that only high-quality evidence contributes to the final synthesis. This is particularly crucial when addressing clinical decision-making and practice. Interpretability requires clear and structured presentations of the findings, including flow diagrams that illustrate the selection process of articles. The synthesis is presented in a structured way that is easily interpretable, allowing readers to grasp the key insights and implications regarding mental health screenings in post-disaster scenarios. Reproducibility is crucial, and this paper provides a detailed account of the research methods and reporting standards to allow other researchers to replicate the study or verify its findings. Also, the Melnyk Pyramid can be used to categorize the articles based on their level of evidence and relevance to clinical decision-making (Melnyk & Fineout-Overholt, 2015). This allows the reviewer to distinguish between articles with varying quality and applicability, ensuring high-quality and relevant evidence is used in the final synthesis. This approach is particularly critical in a study that aims to inform clinical practice and decision-making.

Data Analysis Stage

The Whitemore and Knafl (2005) framework suggests that the collected data from the selected articles be thoroughly examined, reduced to essential components, and presented in an organized manner. This systematic approach facilitates the synthesis of findings, the identification of common themes, and the generation of meaningful insights regarding post-disaster mental health and the effectiveness of mental health screenings. It also aligns with the framework's emphasis on structured data analysis to produce robust and well-organized results

(Whittemore & Knafl, 2005). The data analysis stage encompasses the critical components of data reduction, data comparison, and data display.

Data Reduction. The data reduction process involves extracting essential information from selected articles, including key findings, methodologies, and conclusions. This process aids in synthesizing the evidence and identifying patterns and themes. Data reduction involves systematically extracting data related to the effectiveness of mental health screenings in post-disaster settings in identifying mental health issues and possible interventions and their outcomes. Data are obtained from the articles and broken down into meaningful categories like sample characteristics, type of study, level of evidence, and findings (Melnyk & Fineout-Overholt, 2015). The data reduction process phase of gathering the data and obtaining information that helps answer the research question culminates in a literature matrix.

Data Comparison. The data comparison stage is an essential component that allows for a comprehensive analysis of the collected data. During this stage, the reviewer systematically compares data from different sources to identify patterns, similarities, differences, and relationships (Whittemore & Knafl, 2005). This stage includes the assessment of how different articles address the research question, examination of the consistency of findings, and identification of any discrepancies or contradictions. The stage enriches the analysis by providing a structured approach to evaluate how the data from various sources aligns with the research objectives (Whittemore & Knafl, 2005). Disasters, in the initial review of literature, were found to be consistently associated with anxiety, depression, and PTSD (Sullivan et al., 2021). These findings prompt further exploration into specific conditions and contexts where preexisting mental illness might have a differential effect on post-disaster mental health. Data comparison reveals emerging themes related to the effectiveness of mental health screenings,

including the role of mental health screenings, resilience, and coping strategies, as well as PTSD, anxiety, and depression as significant concerns in disasters.

Data Display. The data display stage involves organizing and presenting the data clearly and coherently. A literature matrix in tabular format shows the author, sample characteristics, sample population, level of evidence, findings, and rationale for why the study had high-quality evidence for the review (Melnyk & Fineout-Overholt, 2015). The analysis seeks to identify common themes and patterns across the selected articles. The data are organized into categories, allowing for a comprehensive understanding of the mental health challenges and the role of mental health screenings post-disaster. This approach ensures that the synthesized findings are structured and accessible for interpretation, further contributing to the study's objective of a structured analysis.

Conclusion Drawing and Verification

The reviewer systematically synthesized and compared findings from selected articles to draw comprehensive conclusions regarding post-disaster mental health and the role of mental health screenings. The data analysis stage provided a comprehensive synthesis of the existing literature on post-disaster mental health screenings, and the conclusions were grounded in the collective evidence from multiple articles, supporting the understanding of the subject (Whittemore & Knafl, 2005). These conclusions served as a foundation for informing disaster response efforts and mental health support strategies and emphasize the significance of early intervention, context-specific approaches, and community-level factors in promoting mental well-being in disaster-affected populations.

Presentation

The final stage involves presenting the synthesized findings in a structured manner. The reviewer used the Melnyk Pyramid to organize the results and provide a detailed overview of the various aspects of post-disaster mental health as explained by different articles. This stage aligned with the study's aim to communicate the findings effectively to stakeholders, including health care practitioners, policymakers, and researchers (Whittemore & Knafl, 2005). Structuring the presentation of results in a literature matrix and discussing the results as interpreted together in the synthesis presents the primary findings, the limitations, and the implications of practice as supported by the literature. These measures ensure the implications are readily apparent, verifiable, and actionable.

Section Two: Search Strategies

Search Strategy

The following databases were used to conduct a preliminary search of literature with the support of a university librarian: EBSCO Quick Search, ProQuest Central, MEDLINE Ultimate (EBSCO), Health & Medical Collection (ProQuest), CINAHL Ultimate, National Guidelines Clearinghouse, and PubMed. The search terms for the preliminary review were *mental health*, *mental health screenings*, *natural disasters*, *populations impacted by disasters* (children, elderly, those with preexisting mental health disease; people in lower-socioeconomic situations), and *support services*. The search resulted in 2,358 articles. Further supplemental information was gleaned from the CDC and WHO using the above-noted search terms. With the additional application of search criteria, 15 articles remained and were selected for inclusion in the review. (see Toronto & Remington, 2020).

Melnyk Pyramid and the Rapid Critical Appraisal

The Melnyk Pyramid is a hierarchical framework that is used to categorize different types of evidence based on their quality and relevance to clinical decision-making. This structured approach guides the reviewer in evaluating the strength of evidence across a spectrum of studies, from the highest quality sources at the apex to the lowest quality sources at the base. At the peak of the pyramid, each level of evidence served a unique purpose in this review. While the higher levels of evidence offered strong foundations and causal insights, the lower levels of evidence contribute to a more comprehensive understanding of the research topic by providing context, observational data, and exploratory perspectives. The Melnyk Pyramid further facilitates the assembly of a diverse body of evidence, ensuring the study has a strong, multifaceted foundation.

PRISMA

PRISMA supports the transparent reporting of systematic reviews and meta-analyses. It assists in improving the quality and clarity of research reporting by ensuring that the review process is conducted in a methodologically sound manner. Adhering to PRISMA in this review ensured that the literature search, article selection, and data synthesis were rigorously conducted and clearly reported. The PRISMA flow diagram (see Appendix C), provides a visual depiction of the article selection process. The initial search resulted in 2,358 articles.

Quality Assurance

A single analyst conducted a comprehensive examination of each article, evaluating them based on the Melnyk Pyramid. This model categorizes research quality into different levels: Level 1 includes systematic reviews and meta-analyses of controlled trials, Level 2 includes one or more individual randomized controlled trials, Level 3 encompasses controlled trials without randomization, and Level 4 comprises case-control or cohort studies. Additionally, Level 5

includes systematic reviews of descriptive and qualitative studies, Level 6 involves single descriptive or qualitative studies, and Level 7 represents expert opinion (Melnyk & Fineout-Overholt, 2015). A thorough review was conducted to determine the level of evidence of each article. The IR includes one Level 1 study, one Level 3 study, seven Level 4 studies, two Level 5 studies, and four Level 6 studies. The articles were meticulously grouped based on their relevance to the review's topic, whether it met the inclusion criteria, and the level of evidence according to the Melnyk Pyramid. Facilitating a comprehensive analysis and synthesis of the research material.

Literature Categories

The literature exploration entailed a comprehensive investigation intended to identify research, supplemental evidence, and guidelines essential for understanding mental health challenges post-natural disasters. The reviewer organized the literature into the categories of research and supplemental evidence to offer critical insight into the topic. Mental health screenings were the focal point of the review. Research reviewed specifically focused on mental health screenings post-natural disasters; these studies provided a knowledge base essential for comprehensive analysis. The process and methodologies of mental health screenings and their significance and potential impact on disaster-affected populations were examined. Mental health issues were also considered as part of the initial literature review to gain a comprehensive understanding of mental health challenges that individuals face in the aftermath of natural disasters. These mental health challenges include PTSD, anxiety, depression, and various other mental health disorders that may be exacerbated by the traumatic experiences associated with disasters. Vulnerable populations were also mentioned frequently in the literature. Children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness were

noted as disproportionately impacted by post-disaster mental health challenges (Baggerly et al., 2022, Le Roux & Cobham, 2022).

Research

Mental Health Screenings. The literature highlighted the pivotal role of mental health screenings post-disaster in identifying and addressing the mental health needs of affected individuals. Makwana (2019) stressed the significance of conducting systematic mental health assessments following disasters to identify individuals at risk of developing mental health issues. These screenings are a critical first step in providing timely and targeted support to those in need. Goldmann et al. (2021) further reinforced the significance of post-disaster mental health screenings by shedding light on the prevalence of mental health concerns that emerge after disasters.

The literature emphasized that PTSD, anxiety, and depression are among the most observed mental health issues following disasters (Goldmann et al., 2021). Identifying these specific concerns through screenings helps health care providers tailor interventions to address them effectively. Beaglehole et al. (2018) extended the discussion to provide a comprehensive systematic review of the rates of psychological distress and psychiatric disorders following natural disasters. The literature further highlighted the significant increases in PTSD and depression, two conditions warranting particular attention during mental health screenings. Newman et al. (2022) discussed further the community-level aspect of mental health screenings, exploring the relationship between neighborhood vacancies, probable PTSD, and health-related quality of life in flood disaster-impacted communities. This research emphasized that mental health screenings should not be limited to individuals but should also contain broader community assessments. Identifying mental health trends and disparities at the community level can inform

more effective and inclusive disaster response strategies. Screenings were found to aid in the early identification of mental health concerns, whether at the individual or community level, and eventually enabled more targeted and effective interventions to support disaster survivors (Newman et al., 2022).

Anxiety Post-Disaster. Anxiety is a prevalent and widely documented mental health concern following natural disasters, underscoring the urgent need for intervention and support for affected individuals. Makwana (2019) provided valuable insight into the increased prevalence of anxiety symptoms among disaster survivors. This research highlighted the significance of anxiety as a common post-disaster mental health issue and stressed the pressing need for timely and targeted interventions to address these symptoms effectively. Lowe et al. (2020) explored anxiety as one of the post-traumatic stress symptom trajectories among low-income women after Hurricane Katrina. This research expanded the understanding of the specific challenges and risk factors associated with anxiety post-disaster, particularly those faced by specific demographic groups post-disaster. Xi et al. (2022) further enriched the literature by examining the relationship among earthquake exposure, locus of control, coping strategies, and PTSD among adolescent survivors. While addressing PTSD, the study also sheds light on anxiety-related factors that impact young survivors. Investigating how earthquake exposure, locus of control, and coping strategies influence the development of PTSD and, by extension, anxiety symptoms among adolescents offers valuable insights into the anxiety-specific challenges of younger disaster survivors. Anxiety prevalence increases post-disaster, and specific risk factors like lack of social support, displacement, and traumatic experiences significantly affect vulnerable groups and adolescents (Xi et al., 2022).

Resilience and Coping Strategies. Community resilience remains a critical protective factor against adverse mental health effects following disasters. Steinbrecher et al. (2021) introduced the Miracle Question intervention (MQ) as a potential strategy for use in the treatment of disaster-affected families. The MQ, used in solution-focused therapy, encourages individuals and families to envision a future without the hindrance of their trauma or challenges. The study found that when the MQ is used, individuals identify small, realistic goals and changes that can lead to a more positive future, fostering hope and facilitating the healing process. The MQ is an innovative psychological tool that mental health professionals can use to assist disaster survivors in their recovery.

Nzayisenga et al. (2022) explored distress patterns and psychosocial support among disaster-displaced individuals in lower-middle-income countries. The study emphasized the significance of traditional assistance systems and community support as facilitators of coping. They found that family support, religiousness, and support provided by community members and leaders help individuals manage distress. The findings stressed the significance of culturally sensitive and community-based approaches to coping and mental health support in disaster-affected areas.

Preexisting Mental Illness. Understanding the impact of preexisting mental illness on post-disaster mental health outcomes is critical. Sullivan et al. (2021) found an association between pre-disaster mental illness and poor post-disaster mental health outcomes. This finding emphasizes the vulnerability of individuals with mental health conditions before a disaster strikes. The results of the study imply that disaster response efforts must address the unique needs of those impacted by mental illness by ensuring access to mental health services, medications, and ongoing support. Sullivan et al. (2021) highlighted the added challenges faced

by veterans who may already have complex mental health histories related to their service.

Recognizing veterans as a particularly vulnerable group in disaster-affected areas and providing specialized interventions and support is critical. Lowe et al. (2019) examined how preexisting psychiatric disorders impact the risk of the development of new psychiatric disorders post-disaster. They revealed a complex interplay between existing mental health conditions and the additional stressors brought about by disasters, emphasizing the need for early identification and intervention to prevent mental illness exacerbation.

Supplemental Evidence

The landscape of post-disaster mental health, legislative and organizational frameworks offer critical insights into the absence of mental health services . The Post-Disaster Mental Health Response Act, signed into law on December 23, 2022, stands as a significant development in the treatment of post-disaster mental health issues. This legislation outlines a comprehensive approach to post-disaster mental health services, triggered by an emergency attestation by the FEMA. Notably, the act expands FEMA’s Crisis Counseling Assistance and Training Program (CCP) to allow the provision of support in emergencies, ensuring assistance even when events do not qualify as major disasters (Post-Disaster Mental Health Response Act, 2022). However, despite this expansion, FEMA has yet to incorporate post-disaster trauma screenings into their repertoire. This underscores a critical gap in mental health support services. Complementing FEMA’s efforts, the Substance Abuse and Mental Health Services Administration (2023) shed light on the CCP program, revealing that while it offers assessment tools post-disaster, there is a notable absence of screening tools specifically designed for post-disaster mental health. This gap signifies a need for more comprehensive mental health screening

approaches within disaster response frameworks to effectively address the mental health challenges that unfold in the aftermath of such events.

The CDC contributes to the landscape of disaster response through the Community Assessment for Public Health Emergency Response. This initiative plays a vital role in the assessment of the impact of disasters and the evaluation of critical health needs within affected communities. It aims to provide estimates of household damage and evaluate the effectiveness of relief efforts, offering valuable insights for informed public health responses (CDC, 2022). Understanding these organizational approaches will be essential in shaping a comprehensive understanding of post-disaster mental health response frameworks and identifying areas for improvement and enhancement.

Standards/Guidelines

The IR revealed limited information regarding standards and guidelines for mental health screening post-disaster. The literature lacked specific insight, which has left clinicians scrambling to diagnose and support the impacted populations, particularly children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness. The literature did reveal a toolkit and questionnaires.

The Post-Disaster Mental Health Impact Surveillance Toolkit provides information regarding post-disaster studies conducted in Quebec and France. It includes a list of existing resources gathered from surveillance-based databases reporting mental health impacts. It also suggests instruments to be used for post-disaster analysis. For instance, the Peritraumatic Distress Inventory for adults and the Peritraumatic Distress Inventory-Child for children stand as crucial screening tools (Canuel et al., 2019). In addition, the Child's Reaction to Traumatic Event's Scale-Revised may be used as a training tool (Baggerly et al., 2022). These instruments

serve as valuable mechanisms to assess the psychological impact of trauma experienced during and immediately after a distressing event. The surveys are structured to capture an individual's emotional and psychological experience and reactions at the time of the traumatic event (Canuel et al., 2019). Systematically documenting distress and emotions in the immediate aftermath of a trauma informs initial psychological response, enabling health care professionals to design targeted interventions for individuals grappling with post-disaster mental health challenges.

The WHO endorses the ITQ to assess the fundamental characteristics of both PTSD and chronic PTSD. This questionnaire aligns closely with principles outlined in the *International Classification of Diseases* (11th rev.), which places a strong emphasis on core aspects and relevant information in reference to mental illness. The ITQ addresses the potential impact of these fundamental principles on treatment outcomes, highlighting the significance of accurate and comprehensive assessment in shaping effective therapeutic approaches (WHO, n.d.).

Synthesis

The Imperative of Mental Health Screenings Post-Disaster

Across multiple articles explored, there is a resounding consensus on the critical role of mental health screenings in the aftermath of natural disasters. The importance of identifying individuals at risk for mental health issues through screenings is emphasized (Beaglehole et al., 2018; Makwana, 2019; Newman et al., 2022). The consequences of neglecting screening are profound, with post-disaster mental health concerns such as anxiety, depression, and PTSD remaining unaddressed due to screening gaps, and exacerbating existing mental health challenges (Goldmann et al., 2021). This theme is further substantiated by the ITQ, which serves as a valuable tool for assessing trauma-related symptoms and psychological impact of trauma. The ITQ highlights that mental health screenings represent the linchpin of effective disaster response

strategies, as they allow for the early identification of individuals in need and facilitate timely interventions and support to mitigate the long-term mental health repercussions of catastrophic events (Cloitre et al., 2018). These sources collectively assert that mental health screenings are the cornerstone of effective disaster response as they allow for the identification and subsequent support of those needing early intervention.

Anxiety as a Pervasive Concern

Anxiety is a prevalent and widely documented mental health concern following natural disasters. Research reveals the heightened prevalence of anxiety symptoms among disaster survivors, necessitating timely intervention. Anxiety is a distinct post-traumatic stress symptom, and understanding its specific challenges and risk factors, particularly among low-income and vulnerable populations in disaster, is critical (Lowe et al., 2020; Makwana, 2019). Factors like social support, traumatic experiences, loss, and displacement are significant concerns warranting mental health screenings. Xi et al. (2022) explored the relationship between earthquake exposure, locus of control, coping strategy, and PTSD among adolescent survivors and found that anxiety increases among survivors. The authors stressed the need for targeted screening and intervention strategies to address post-disaster anxiety comprehensively.

Resilience, Coping, and Community Support

Resilience and coping strategies are pivotal factors in disaster recovery and mental health outcomes. The research emphasizes the role of community resilience in mitigating adverse mental health effects, highlighting the positive influence of resilient communities on residents' well-being (Nzayisenga et al., 2022). Steinbrecher et al. (2021) introduced the MQ as a promising therapeutic technique to be used as a coping strategy for disaster-affected families, while Nzayisenga et al. (2022) found traditional assistance systems and community support as

effective therapeutic techniques. These sources collectively emphasized the need to foster resilience at individual and community levels, integrate effective treatment strategies, and mobilize community support networks.

Preexisting Mental Illness

The data revealed that preexisting mental illness worsens post-disaster mental health outcomes. Sullivan et al. (2021) underscored the significant association between pre-disaster mental illness and poor post-disaster mental health outcomes, emphasizing the vulnerability of individuals with preexisting conditions in disaster situations. Similarly, Lowe et al. (2019) found that preexisting psychiatric disorders increase the risk of the development of new psychiatric disorders post-disaster, stressing the significance of tailored interventions and support for individuals with preexisting mental health conditions in disaster-affected areas.

Section Three: Managing The Collected Data

The IR incorporated articles consisting of mental health, mental health screenings, natural disasters, populations impacted by disasters. The comprehensive and systematic search returned fifteen articles with an assorted range of levels. One Level 1 article is included in this IR (Beaglehole et al., 2018). The IR included no Level 2 evidence of randomized controlled trials; one study classified as Level 3 (Le Roux & Cobham, 2022), which comprises cohort studies; seven studies classified as Level 4 evidence (Hansel et al., 2015; Newman et al., 2022; Norberg et al., 2022; Steinbrecher et al., 2021; Sullivan et al., 2021; Xi et al., 2022; Yang & Bae, 2022), which includes cross-sectional studies and other observational designs; and two articles classified as Level 5 (Takagi et al., 2021; Yun-Jung et al., 2018), which includes systematic reviews of descriptive and qualitative studies. Four articles classified as Level 6, which consists of single descriptive or qualitative studies, were included in this IR (Alto et al., 2021; Baggerly

et al., 2022; Lowe et al., 2020; Nzayisenga et al., 2022). The selected articles uphold the problem statement that support the issue of lack of effective post disaster mental health screenings of high-risk populations. With a greater incidence of PTSD, anxiety, depression as a result. The Melnyk Pyramid framework was instrumental in assessing the quality and suitability of the 15 articles reviewed. This framework facilitated the identification of different types of evidence that collectively built the study and ensured that the research relies on high-quality sources.

Section Four: Quality Appraisal

After the meticulous collection and organization of data, the critical process of quality appraisal is completed. A quality appraisal systematically examines the evidence to assess the value, relevance, and reliability of the literature under scrutiny (Toronto & Remington, 2020). The Melnyk Pyramid framework was used to ensure that the evidence included in the review was robust, trustworthy, and aligned with the research objectives. The Melnyk Pyramid is an invaluable tool for quality appraisal in evidence-based practice, and it categorizes evidence from Level 1 to Level 7, with Level 1 being the highest and Level 7 the lowest (Melnyk & Fineout-Overholt, 2015). In an exhaustive analysis, the leveling of evidence revealed one Level 1 study, one Level 3 study, seven Level 4 study, two Level 5 studies, and four Level 6 studies. The articles included in this review provided moderate to high-quality evidence. This rigorous quality appraisal process guarantees that the evidence selected aligns with the research objectives and will underpin the research on high-quality literature, facilitating the synthesis of findings and the generation of meaningful insights for the advancement of knowledge in the field of post-disaster mental health screenings and guidelines.

Ethical approval ensures that research adheres to principles of beneficence, nonmaleficence, autonomy, and justice while also respecting the ethical guidelines outlined in

the Collaborative Institutional Training Initiative (CITI). The project reviewer undertook comprehensive training through CITI as a measure to bolster the quality appraisal process. CITI offers a robust platform for research ethics and compliance training and equips researchers with the knowledge and understanding required to conduct research that upholds ethical standards and complies with regulations and guidelines. Getting approval from the Institutional Review Board is also a critical step in maintaining ethical research standards and enhancing research integrity. Even in cases where human subjects are not directly involved, as in this IR, Institutional Review Board approval reaffirms the researcher's commitment to ethical research practices. As such, CITI training and Institutional Review Board approval (see Appendix B and Appendix D) were added measures that ensured the research abided by ethical and quality standards.

Sources of Bias

Maintaining the integrity of any research study involves a diligent assessment of potential sources of bias that could impact the validity and reliability of the findings (Toronto & Remington, 2020). Bias can arise from various aspects of the research process, and it is essential to acknowledge and address these potential sources to ensure that the IR results provide a balanced and accurate representation of the existing literature. Publication bias is a recognized concern in literature reviews and meta-analyses and occurs when statistically significant articles are favored over those with neutral or negative findings (Toronto & Remington, 2020). Studies reporting no significant effects or inconclusive results might not have been published, leading to an overrepresentation of positive findings in the literature. This bias could lead to an overestimation of the effectiveness of post-disaster mental health screenings and interventions.

Language bias can also affect the results of a review, as this IR was conducted in English, which could exclude valuable non-English studies with crucial findings. The acknowledgment of

potential bias serves as a reminder to readers to interpret the findings with caution and consider the potential limitations of the reviewed literature. Toronto and Remington (2020) explained that handling potential sources of bias requires a systematic and thorough approach to assess, acknowledge, and mitigate bias. Systematically identifying potential sources of bias throughout the research process, such as in the selection of studies, data extraction, or quality appraisal, is crucial. In this case, this researcher ensured transparent reporting and adhered to the PRISMA statement to guide the review process. Balanced interpretations that highlighted results and the potential limitations that might affect those results ensured a fair and accurate representation of the reviewed literature (Toronto & Remington, 2020).

Internal Validity

In line with the guidance provided by Toronto and Remington (2020), internal validity was managed and assessed through study selection criteria, such as peer review, relevance to the research question, and a focus on mental health screenings post-disaster. Ensuring a clear and standardized process for selecting studies reduced the risk of including irrelevant or biased sources. Detailed and standardized data extraction forms were employed that encompassed key study characteristics, methods, results, and findings in a literature matrix. This approach aimed to ensure that data were extracted consistently from each study and aligned with the research questions. Transparency in reporting, as recommended by Toronto and Remington (2020), was upheld throughout the IR. As such, by implementing clear selection criteria, conducting rigorous quality appraisal, and ensuring transparent and objective data extraction, this researcher enhanced the credibility and reliability of the findings.

Appraisal Tool

There is no standardized tool used to appraise quality studies; with over 100 types of methodological quality primary appraisal tools, choosing the appropriate tool may be difficult. Yet there are several frameworks that give direction to the reviewer (Toronto & Remington, 2020). The Melnyk Pyramid and a literature matrix were used. The Melnyk Pyramid allowed for the inclusion of various study designs, ensuring that the review considered both high-quality, causal evidence and lower-level, context-providing studies. This contributed to a more comprehensive understanding of the research topic. A literature matrix was constructed to systematically organize and synthesize information from the selected studies. This matrix facilitated the extraction and comparison of key study characteristics, including study design, objectives, methods, and main findings. Structuring the data in a matrix made it possible to discern patterns, common themes, and gaps in the literature, leading to the development of the synthesis and discussion sections of the IR (Toronto & Remington, 2020). Together, these tools contributed to a rigorous and comprehensive quality appraisal process within the IR, ensuring that only relevant and credible sources informed the synthesis and discussion.

Reporting Guidelines

The PRISMA statement (Appendix C) guided the reporting process and enhanced the clarity and comprehensiveness of the final document. While this IR is not a traditional systematic review or meta-analysis, the PRISMA principles suited the IR methodology. The PRISMA statement ensured that each essential reporting element was addressed. (Moher et al., 2009).

Applicability of Results

The findings derived from the reviewed literature hold significant relevance for real-world applications in various settings, spanning health care, emergency response, community

support, and policy development. Whittemore and Knafl (2005) argued that research is applicable only when problems explored lead to real-world solutions.

Section Five: Data Analysis and Synthesis

Whittemore and Knafl (2005) emphasized the importance of a systematic approach to data analysis and synthesis in research reviews. They advocated for a rigorous and well-structured process of carefully classifying, labeling, and describing meaningful information collected from credible resources. Use of such a process ensures the results are detailed and conferred in a unified manner. A data analysis goal is to provide an unbiased and comprehensive analysis of the information available and a synthesis of the documentation. The analysis and synthesis will provide the platform to explore mental health screenings by clinicians post-disaster to encourage the best results. Data analysis revealed several themes to include: significance of mental health screenings, prevalent mental health concerns, vulnerable populations, and the critical role of coping strategies in shaping effective post-disaster interventions.

Data Analysis Methods

Several data analysis methods were considered for the review. When using the constant comparison method, the reviewer systematically analyzes and synthesizes the literature. This method involved a rigorous process of comparing data across different sources to identify patterns, commonalities, and differences, enabling the development of comprehensive insights and thematic understanding. Constant comparison was instrumental in identifying themes within the literature. This iterative process also allowed for a more in-depth exploration of the complexities of post-disaster mental health screenings. Comparing and contrasting findings from various sources created a cohesive narrative that integrated insights from diverse literature (Toronto & Remington, 2020).

The literature matrix offered a structured approach to managing the information collected, providing clarity and facilitating comparative analysis. The reviewer systematically recorded essential information on each included source such as author, publication year, main findings, level of evidence, type of study, and relevant themes in the literature matrix (Toronto & Remington, 2020). The matrix helped provide a clear overview and prevented information overload. It allowed the data obtained from different studies to be compared and contrasted in a structured format. Collectively, this information helped the reviewer to readily identify commonalities and differences, which, in turn, revealed emerging trends and consistencies across the literature.

These methodologies helped the researcher to extract valuable insights, identify recurring themes, and draw well-founded conclusions from the diverse range of sources explored in the study. Prominent themes emerging from the analysis were the significance of mental health screenings, understanding prevalent mental health concerns in disasters, vulnerable populations, and leveraging community resilience and coping strategies for effective post-disaster interventions.

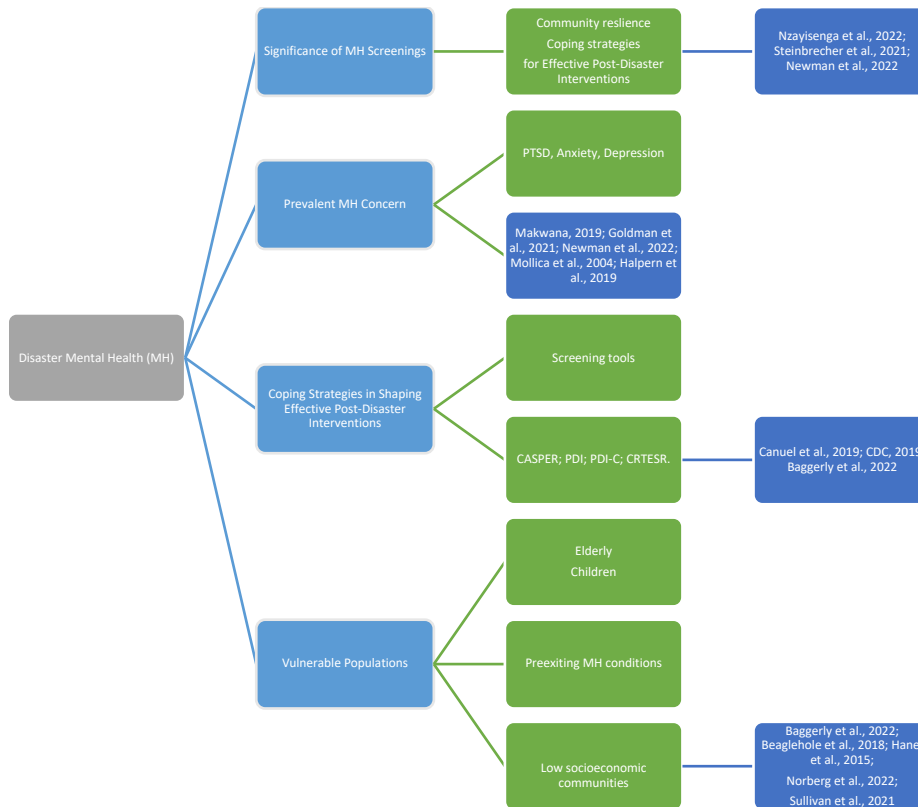
Synthesis

Synthesis is a whole-knowledge approach that interprets diverse sources together to identify new themes that lead to a greater understanding of the topic of study (Toronto & Remington, 2020). In the wake of natural disasters, the need to address mental health concerns has gained prominence in recent literature. This synthesis delves into four central themes that emerged from the research, providing an intricate understanding of post-disaster mental health. These themes are the significance of mental health screenings, prevalent mental health concerns, vulnerable populations, and the critical role of coping strategies in shaping effective post-disaster

interventions. Integrating insights from multiple sources allows for a cohesive and comprehensive perspective on the mental health challenges faced by individuals and communities in the aftermath of disasters.

Figure 1

Flowchart of Themes Related to Post-Disaster Mental Health



Note. CASPER = Community Assessment for Public Health Emergency Response; CRTESR = Child’s Reaction to Traumatic Event’s Scale–Revised; PDI = Peritraumatic Distress Inventory; PDI-C = Peritraumatic Distress Inventory–Child.

The Significance of Mental Health Screenings

The importance of conducting systematic mental health screenings following disasters is apparent in the literature (Goldmann et al., 2021; Makwana, 2019; Newman et al., 2022). These screenings serve as a foundational step in identifying individuals at risk of developing mental health issues and ultimately facilitating timely and targeted support. The ramifications of

neglecting such screenings are profound, as the lack of screening results in the risk of post-disaster mental health concerns, including PTSD, anxiety, and depression, remaining unaddressed (Goldmann et al., 2021; Makwana, 2019). As such, screenings are instrumental in identifying individuals in need and enabling timely intervention. As observed in the study by Newman et al. (2022), the need for screenings extends beyond individuals to encompass broader community assessments, which enable the identification of mental health trends and disparities at the community level, with children, the elderly, individuals from low socioeconomic communities, and those with preexisting mental illness being at the highest risk for exacerbation of mental health issues following a disaster. This collective body of evidence underscores the indispensable role of mental health screenings in laying the foundation for comprehensive post-disaster mental health support. However, standards in support of post-disaster mental health screenings are lacking.

The approach to mental health care usually favors survivors of manmade disaster events in the United States. Victims of crimes are often eligible for assistance and resources. For example, survivors of the World Trade Center attack qualified for resources and counseling services. Survivors exposed to contamination from Ground Zero received health care benefits, and 911 workers were beneficiaries of a victims' compensation fund to provide for monetary and nonmonetary losses. This is usually not the case for survivors of natural disasters, which tend to be greater in size and demand more resources of all sorts to meet the needs of thousands of survivors. As climate change increases the recurrence and magnitude of natural disasters, there is concern that there will be diminishing resources for survivors; therefore, their recovery may be more difficult (Halpern et al., 2019).

Mental Health Screening in Health Care Settings. The reviewed literature underscores the crucial role of mental health screenings post-disaster in health care settings. Makwana (2019) emphasized the value of systematic mental health screenings for identifying individuals at risk of suffering mental problems. These findings are directly applicable to health care practitioners, including doctors, nurses, and mental health professionals. In real-world settings, health care providers can use these insights to incorporate systematic mental health screenings as a routine component of post-disaster health care. Screening tools such as the Peritraumatic Distress Inventory for adults and the Peritraumatic Distress Inventory–Child for children, as endorsed by Canuel et al. (2019), assess the psychological impact of trauma. The literature suggest that mental health screenings should be considered an integral part of post-disaster health care, as they enable timely and targeted interventions.

Community-Level Mental Health Screening. Newman et al. (2022) considered the community post-disaster and emphasized that screenings should not be limited to individuals but should also encompass the broader community. Real-world applications of this insight can be made by community health centers and organizations involved in disaster response. This information is invaluable for tailoring community-based interventions and developing support networks to address the collective mental health needs of disaster-affected communities.

Mental Health Concerns Post-Disaster

Anxiety, depression, and PTSD consistently emerge as the most observed mental health concerns following disasters (Goldmann et al., 2021; Halpern et al., 2019; Makwana, 2019). The literature does not report the specific incidence and prevalence of mental health concerns, but it does comment heavily on these issues. Identifying these specific concerns through screenings helps health care providers tailor interventions effectively to address them. Evidence on

psychological distress and psychiatric disorders following natural disasters underscores the significant increases in PTSD and depression, two conditions warranting particular attention during mental health screenings (Beaglehole et al., 2018). Understanding that anxiety, depression, and PTSD are the foremost concerns informs the development of targeted strategies and therapeutic approaches. Knowledge of the most prevalent issues allows for early intervention, preventing exacerbation or escalation to more severe mental health conditions. Early support significantly improves the chances of recovery and reduces the long-term impact of these disorders, leading to faster recovery from disasters (Makwana, 2019). Health care systems and disaster response agencies can allocate resources more efficiently by focusing on mental health concerns that have the highest prevalence, ensuring initial resources are directed where they are most urgently needed and optimizing the disaster response. In vulnerable populations, care should be centered around key areas for post-disaster communication, specific meeting post for health care resources, and mental health services should be triaged based on mental health urgency during disaster recovery (Alto et al., 2021). Children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness are in the greatest need of mental health services in the days, months, and years following natural disasters (Alto et al., 2021; Baggerly et al., 2022).

Community Resilience and Coping Strategies for Effective Post-Disaster Interventions

The role of community resilience and coping strategies is critical, as resilient communities possess effective coping mechanisms and are better equipped to mitigate the adverse mental health effects of disasters. Yet, less financially stable and prepared residents often bear the stress and effects of disastrous loss. Through mental health screenings, affected individuals may be identified as being at risk for PTSD, anxiety, and depression before their

onset. The MQ by Steinbrecher et al. (2021) is a novel and promising treatment strategy for disaster-affected families. This intervention encourages individuals and families to envision a future free from trauma, which allows them to articulate their hopes and aspirations beyond the immediate challenges they face. The MQ significantly fosters a sense of hope and optimism and provides a structured approach for individuals and families to set realistic goals and identify changes that can lead to a more positive future (Newman et al., 2022; Steinbrecher et al., 2021). The success of this tool shows that similar therapy and mental readjustment strategies may be employed to shift survivors' focus from the trauma's immediate aftermath to a life beyond it, leading to resilience and faster recoveries. This strategy empowers disaster survivors to actively participate in their healing process, fostering a sense of control and direction.

Steinbrecher et al. (2021) and Nzayisenga et al. (2022) emphasized the role of community resilience and coping strategies in mitigating the adverse mental health effects of disasters. In real-world settings, community organizations, disaster response agencies, and mental health professionals can draw from these findings to promote community resilience. For instance, the MQ introduced by Steinbrecher et al. (2021) can be incorporated into community-based programs to help individuals envision a more positive future, foster hope, and facilitate the healing process. Additionally, the significance of traditional assistance systems, family support, religiousness, and peer support, as highlighted by Nzayisenga et al. (2022), can inform community-based coping strategies and psychosocial support programs. These strategies, when used by post-disaster support services, bolster community resilience and enhance coping. Integrating these findings into practice helps organizations and practitioners enhance the effectiveness of their disaster response strategies and better address the mental health needs of disaster-affected individuals and communities.

Nzayisenga et al. (2022) emphasized the value of traditional assistance systems and community support through families, religious networks, and peers in the community and their pivotal role in helping disaster-affected individuals manage distress. Familiar and established networks offer emotional, practical, and psychological support, and individuals can draw on their existing connections, faith-based communities, and relationships with peers for comfort and guidance. A community-focused coping strategy recognizes the importance of culturally sensitive and community-based approaches to mental health support in disaster-affected areas.

The World Council for Psychotherapy proposed placing a great emphasis on addressing post-disaster psychological distress to the United Nations in 2005. The proposal was created to highlight the importance of psychotherapeutic interventions for survivors of disasters and trauma (Nemeth et al., 2021). Effective post-disaster interventions should not be limited to clinical or individual approaches but should actively engage and harness the resilience and support mechanisms within communities to create a holistic approach that recognizes that disaster recovery is not an individual journey but a communal effort.

Vulnerable Populations

Disaster-affected areas often contain specific vulnerable populations, producing the need for targeted interventions. Vulnerable groups such as children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness face unique challenges and risk factors that contribute to their susceptibility to post-disaster anxiety and depression (Lowe et al., 2020; Xi et al., 2022). Lowe et al. (2020) explored complexities associated with anxiety post-disaster in low-income women post-Hurricane Katrina. The interplay of socioeconomic factors, disaster-related experiences, and mental health symptoms is complex, and these factors tend to interact to exacerbate preexisting vulnerabilities, where individuals may manifest intense

symptoms initially and others may develop heightened symptoms later in the recovery process (Lowe et al., 2020). These findings emphasize the need to treat victims as persons and develop a continuous monitoring process, as while some people may improve over time, others may see their issues worsen during the recovery process. Xi et al. (2022) examined children and adolescent survivors of earthquakes and found that factors like lack of social support, displacement, and traumatic experiences significantly predict poorer mental outcomes. These insights underscore the importance of tailored interventions and support for these populations in disaster-affected areas and especially highlight the need to craft layered interventions that show sensitivity to existing intersectional factors that work together to worsen or improve the situation.

Poverty is a large contributor to vulnerability to post-disaster mental health problems; the poor are more likely to live and work in areas exposed to risk. They may live in weak structures and are more prone to be uprooted or displaced because of disaster. They are also less likely to have the resources available to secure employment, credit, or insurance that would provide income or recovery funds when disaster strikes (Hechanova & Waelde, 2020).

Data on the short-term and long-term mental health in older adults revealed that emergency department visits increased by 32% between 1 to 3 months following Hurricane Sandy and rose by 10% in years 1-3 following the hurricane. Mental health hospital admission rates did not increase initially, but 12 months later, there was an 8% increase. Males and those of low socioeconomic status mental health status was delayed but increased 1-3 years later. These findings reveal that older adults and citizens of low socioeconomic status need assistance preparing for natural disasters and mental health help during recovery efforts (Begum et al., 2022).

Section Six: Discussion

The intention of this IR was to raise awareness of the use of mental health screenings among clinicians in the post-natural disaster timeframe to improve natural disaster recovery and health in the community. The IR highlights the gap in health care research regarding standards and guidelines for post-disaster mental health screenings. The IR included several studies that disclosed the insufficiency of post-disaster screenings in the most vulnerable populations of children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness (Baggerly et al., 2022; Canuel et al., 2019; WHO, n.d.). There are no policies or guidelines related to mental health screenings post-disaster, yet the literature did reveal a toolkit and questionnaires (Baggerly et al., 2022). Although these tools may be helpful in many situations, they have not been initiated as post-disaster screenings nor are they being used as standards of practice.

Several studies have revealed the exacerbation of PTSD, anxiety, and depression post-disaster, with the most affected populations being children, the elderly, individuals of low socioeconomic status, and those with prior mental illness. Further studies are needed to continue to highlight this ongoing problem in the post-natural disaster community to increase the awareness of the issue and improve public health.

This IR synthesized information answering the following questions:

1. Which mental health illnesses have the highest incidence of exacerbation following a disaster?
2. Which populations are at highest risk for mental health illness exacerbation following a disaster?

3. Which post-disaster trauma screenings are effective in identifying people with mental health illnesses in support of prioritized mental health interventions?

Dissemination Plan

Dissemination is a multifaceted process of sharing research findings using a strategic and purposeful approach (Melnik & Fineout-Overholt, 2015). Effective dissemination is not one-size-fits-all and involves tailoring communication strategies, understanding unique needs, and promoting evidence-based decision-making across various domains. The technique provides a structured and comprehensive framework to guide the researcher's efforts to share findings with precision and impact (Colditz & Emmons, 2017). This process recognizes the significance of research and acknowledges the importance of research communication and utilization by relevant stakeholders. Dissemination considers the objectives, user needs, audiences, barriers, and methods that align with the objectives of translating research into actionable insights for practitioners and policymakers.

Research Findings to Include in the Dissemination Plan

The information disseminated from this IR will encompass crucial findings, including:

- the prevalence and long-term impact of PTSD, anxiety and depression following natural disasters (Goldmann et al., 2021);
- the role of mental health screenings in identifying at-risk individuals (Beaglehole et al., 2018);
- strategies for enhancing community resilience and coping mechanisms (Steinbrecher et al., 2021);
- the impact of preexisting mental illness on post-disaster mental health outcomes (Sullivan et al., 2021); and

- the importance of standardized psychological interventions for children and community factors that enhance coping and resilience, like family, religion, and peer support (Le Roux & Cobham, 2022; Nzayisenga et al., 2022).

Objectives of the Dissemination Plan

The primary goal of dissemination is to raise awareness of the findings and their profound implications. Communicating these research outcomes will inform a broad audience about the mental health challenges of disaster survivors and the critical role of mental health screenings in post-disaster support. The dissemination of the findings promotes evidence-based post-disaster mental health support and screening to empower practitioners, mental health professionals, and community leaders with the knowledge and tools needed to implement effective screening and support strategies grounded in research. The dissemination aims to influence policy development by presenting compelling evidence that stresses the urgency of improving disaster response strategies to incorporate a mental health focus. Engaging with policymakers and advocacy groups may drive concrete changes in disaster response policies and practices.

Audience

The initial dissemination will be through comprehensive policy briefs and recommendations based on the study's findings sent to government agencies, disaster relief organizations, and mental health advocacy groups beyond the university.

User Needs

Access to evidence-based research on post-disaster mental health is crucial, and dissemination must involve methods that make the information accessible and understandable for different audiences. Educational and practicing professionals require researched data for

implementing mental health screenings and support. One recommendation is to explore collaboration opportunities to enhance disaster response strategies and guide policy development and advocacy efforts. Dissemination will reveal the relevance and implications of the findings to increase proposed post disaster screenings policy recommendations (Toronto & Remington, 2020).

Methods of Dissemination

Academic workshops and seminars within universities will bring the findings to faculty members and fellow researchers. At these workshops and seminars, discussions and feedback will be encouraged so the study may be refined. University intranets and newsletters allow summaries of the findings to be shared with staff, faculty, and students. Summaries will highlight the impact on the university's academic and research community, increasing the interest in the topic and its findings. Publication in peer-reviewed journals make the findings accessible to the global academic community, also increasing the focus on the topic and its relevance (Colditz & Emmons, 2017; Toronto & Remington, 2020). Partnering with local and national community organizations to conduct workshops and training sessions can benefit community leaders, first responders, and mental health professionals to ensure that findings benefit those who matter the most: disaster victims.

Resources Required

Resources are required to support dissemination efforts. Funding for marketing materials, and conference attendance, as well as stakeholder support will be considered further. Designing and publishing resources for policy briefs will require trained professionals with skills to develop this material. Legal advice will be required when developing policy briefs. Appropriate funding will be sought once the exact cost of dissemination is established (Colditz & Emmons, 2017).

Barriers to Dissemination

Limited access to high-impact journals and conferences could be a challenge in achieving publication in peer-reviewed, high-quality journals. Competition for policymakers' attention in a crowded policy landscape and resistance to change can be significant barriers for policy development (Colditz & Emmons, 2017). The initial dissemination will be through policy briefs aimed at enhancing disaster response, and the continued crowding of policymakers' space requires significant efforts to stand out. Resource constraints for organizing workshops and training sessions with community groups focusing on disaster response are also noted challenges for the dissemination process.

Conclusion

This extensive review dove deeply into post-disaster mental health and the role of mental health screenings. The IR highlighted natural disasters' profound and lasting impact on mental health. Conditions like PTSD, anxiety, and depression often emerge as pervasive challenges in the aftermath of disasters, especially on children, the elderly, individuals of low socioeconomic status, and those with preexisting mental illness. Mental health screenings as an intervention post-disaster emerged as an opportunity to support this pressing issue.

The IR reviewed studies that analyzed the effects of post natural disaster effects mentally, thus suggesting a need to address post disaster screening by healthcare clinicians to reinforce the optimal healthcare post-disaster. There are currently no standards or guidelines specific to the use of screenings by providers in support of post natural disaster mental health. This review exposed the most common mental health diagnosis following natural disasters to be PTSD, anxiety and depression, and the most vulnerable impacted. Engaging diverse stakeholders, hosting briefs to consider policy change, developing community workshops, and educational offerings will drive

positive change for the consideration of mental health screenings post-disaster. This review serves as a resounding call to action to recognize the lasting effects of natural disasters on mental health and the pressing need for evidence-based responses.

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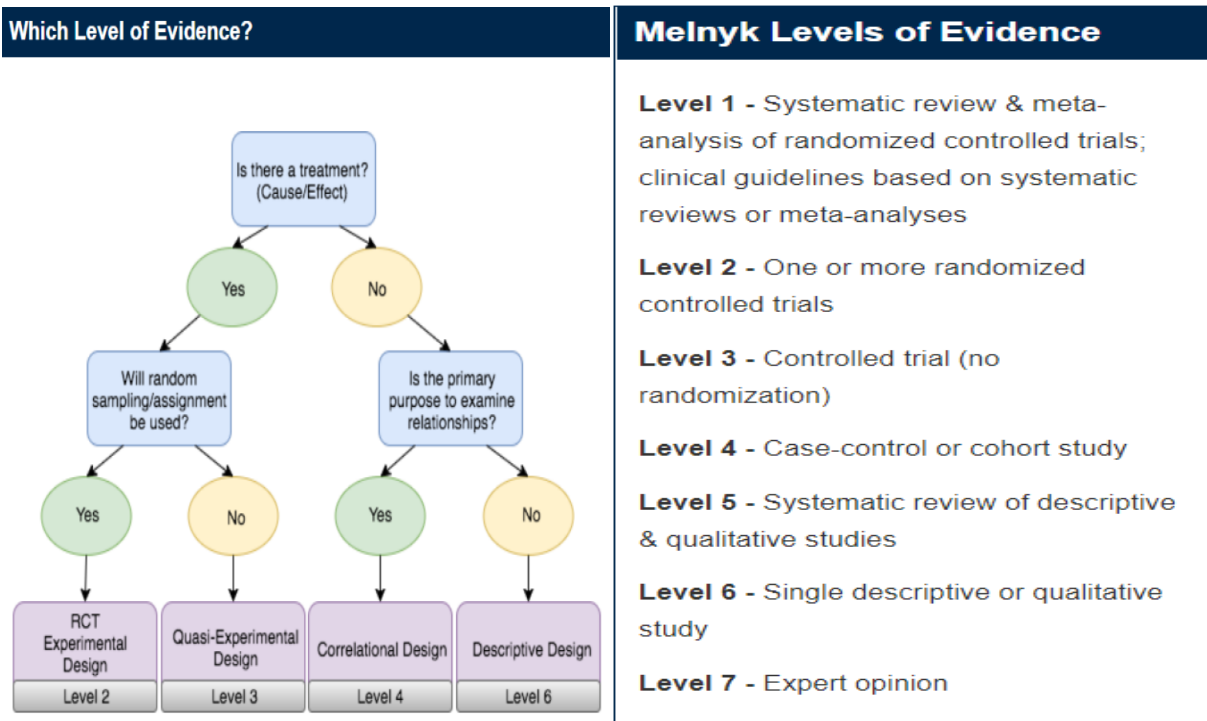
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Appendix A


Melnik Levels of Evidence



From “Box 1.3: Rating System for the Hierarchy of Evidence for Intervention/Treatment Questions,” by B. M. Melnyk & E. Fineout-Overholt, 2015, in *Evidence-Based Practice in Nursing & Healthcare: A Guide to Best Practice* (3rd ed., p. 11). Wolters Kluwer Health.

Appendix B

CITI Training Certificate



Completion Date 14-Mar-2023
Expiration Date 14-Mar-2026
Record ID 54870546

This is to certify that:

Chalita McCormick

Has completed the following CITI Program course:

Biomedical Research - Basic/Refresher
(Curriculum Group)
Biomedical & Health Science Researchers
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Liberty University

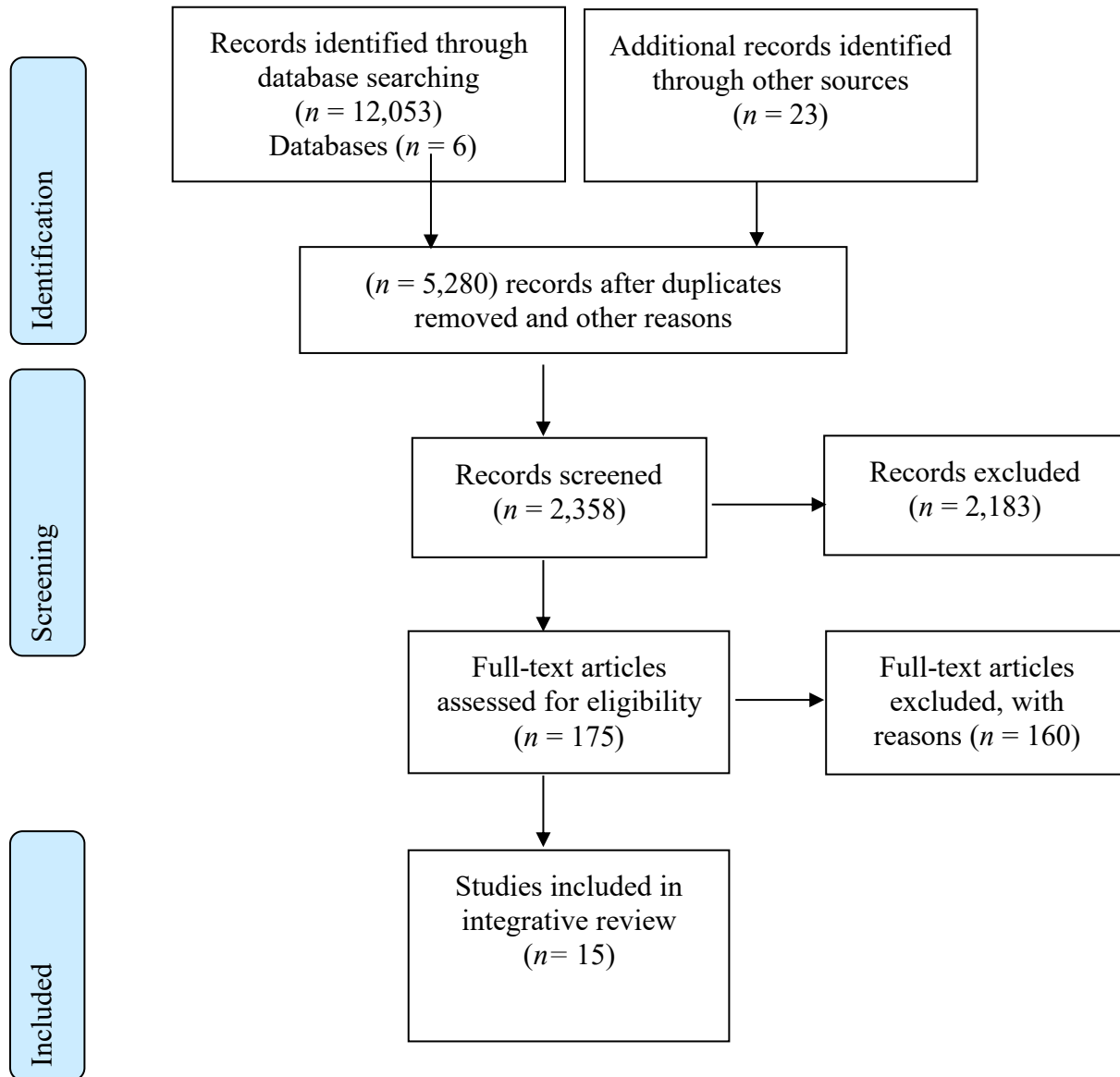
Not valid for renewal of certification through CME.

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Verify at www.citiprogram.org/verify/?w9c8f1e41-5a94-4cc3-9aa1-eed239225d21-54870546

Appendix C

PRISMA Model



Appendix D

Institutional Review Board Letter

LIBERTY UNIVERSITY
INSTITUTIONAL REVIEW BOARD

October 20, 2023

Chalita McCormick
Dana Woody

Re: IRB Application - IRB-FY23-24-573 THE MISSING LINK- THE SIGNIFICANCE OF MENTAL HEALTH SCREENINGS POST NATURAL DISASTERS: AN INTEGRATIVE REVIEW

Dear Chalita McCormick and Dana Woody,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds that your study does not meet the definition of human subjects research. This means you may begin your project with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your study is not considered human subjects research because it will not involve the collection of identifiable, private information from or about living individuals (45 CFR 46.102).

Please note that this decision only applies to your current application. Any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

For a PDF of your IRB letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study Details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,
G. Michele Baker, PhD, CIP
Administrative Chair
Research Ethics Office