ORIGINAL ARTICLE

Trauma Prevention Care in Natural Disaster-prone Areas: Concept Analysis

Eriyono Budi Wijoyo, BSN, Ns, MN, SpKepJ[1,2] and Mustikasari, SKp, MARS[3]

[1]Faculty of Nursing, Universitas Indonesia, Indonesia
[2]Nursing Profession Study Program, Faculty of Health Sciences, Muhammadiyah University of Tangerang, Indonesia
[3]Department of Mental Health Nursing, Faculty of Nursing, Universitas Indonesia, Indonesia

ABSTRACT

Background. Natural disasters occur frequently in Indonesia, so the community must understand the impact of these disasters. Nurses, on the other hand, can perform trauma prevention care and carry out interventions in areas prone to natural disasters. The concept of trauma prevention care is not new in nursing. However, it needs to be analyzed further because there are still unclear definitions and inconsistencies in its implementation.

Objective. This study aims to describe the concept of trauma prevention care using the Walker & Avant analysis method.

Methods. The Walker and Avant concept analysis method was used which consists of eight systematic steps. Information sources include electronic databases such as ScienceDirect, PubMed, EBSCO, and SAGE, for articles published from January 2006 to June 2024. Embase was searched for the terms "trauma prevention," AND "trauma prevention care," AND "trauma prevention natural disasters."

Results. The literature search identified 80 articles in the fields of medicine, nursing, sociology, and psychology. After analysis, 13 articles were selected for this study. Data extraction and analysis adhered to the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines. Trauma prevention care is defined as 1) knowledge, 2) recognition, 3) caring, 4) respect, and 5) communication. The idea of antecedents includes trauma, education, and skills, while consequences comprise assessment, safety, resources, psychological stress, unidentified trauma, and limitations of nurses.

Conclusion. Understanding the attributes of trauma prevention care, along with its antecedents and consequences, can facilitate development in nursing practice. This concept of trauma prevention care can be used to conduct trauma assessment and prevention in natural disaster-prone areas to minimize the impact that will occur.

Keywords: trauma, prevention care, disaster-prone, concept analysis

Corresponding author: Mustikasari, SKp, MARS
Department of Mental Health Nursing
Faculty of Nursing
Universitas Indonesia
Jl. Lingkar Pondok Cina, Kecamatan Beji, Kota Depok, Jawa Barat 16424 Indonesia
Email: mustikasari@ui.ac.id
ORCiD: https://orcid.org/0000-0002-8096-8868

INTRODUCTION

Significant global natural disasters have an effect on people, individuals, families, communities, and the environment. There can be material loss and psychological effects from these tragedies. Non-physical losses encompass psychological aspects such as experiencing trauma, injury, fear of death, livelihood loss, feeling insecure, and exhaustion following a calamity.[1] Psychological harm that a community suffers following a natural disaster is considered PTSD (Post-Traumatic Stress Disorder).[2,3] Traumatic events, including natural disasters, accidents, terrorism, war, rape, or other violent behavior, can cause PTSD, a mental illness that affects those who encounter or witness them.[4] Accordingly, those who go through stressful situations, including natural disasters, run the chance of developing PTSD.

Past experiences tend to make survivors believe that there is no future following the aftermath of a disaster, and this tendency has an impact on the survivor as it carries the potential risk of PTSD. This possibility encourages survivors to prevent PTSD by increasing life satisfaction, improving the quality of life, and giving meaning to life more earnestly than before.[5,6] Every incident experienced by a person will be a valuable experience for that individual. Experience is a memory that receives and stores occurring events or is experienced by individuals at a certain time and place, which functions as an autobiographical reference.[7] The process of experience by individuals involves a perceiver and a setting, and can be felt because it involves thoughts, feelings, and actions.[8] Perception is not only determined objectively by stimulus but also influenced by the state of the perceiver. Experience plays a significant role in preparing something that is bound to be felt (known, done, and perceived). Perception is also an awareness of something that is captured by the human senses.[9] Different impressions are produced by an individual's experiences or internal activities. This opinion means that objects stressed in perception are generally objects that fulfill the goals of the individual who performs the perception. The perception that one often experiences (consistently) repeatedly will automatically be recorded in our memory and become an experience or perception that will be recalled if we experience the same sensation at another time.[10] Experiences related to disaster occurrences vary for everyone, resulting in trauma afterward.

Due to increased public awareness of the consequences of trauma resulting from natural disasters, individuals are now being assessed for symptoms of depression, anxiety, secondary ailments, and persistent stress.[11,12] Presently, there has been a surge in literature studies, conversations, and dialogues concerning the provision of care to avoid trauma. However, there is a lack of conceptual analysis regarding trauma prevention care, specifically in the context of natural disasters, particularly within the fields of nursing, science, and clinical practice.[13] Individuals who have experienced trauma are more fragile, and it significantly impacts both their bodily and mental well-being over an extended period of time.[14] Trauma prevention care is a patient-focused approach that aims to prevent retraumatization of those who have already suffered trauma by addressing their specific needs.[15] There is no clear and specific definition for trauma prevention care yet. The analysis of a literature sample to find recurring themes related to the origins, characteristics, results, occurrences, and empirical references of trauma prevention treatment was conducted using Walker and Avant's eight-step technique.[16] The purpose of this analysis is to define trauma prevention care within the framework of nurses as caregivers based on trauma-informed concepts. This analysis will give research and practice a framework for trauma-informed nursing care, from conceptualization to operational definition from a nursing perspective.

MATERIALS AND METHODS

Design

This study used the Walker and Avant concept analysis method, which consists of eight systematic steps, namely: 1) selecting a concept; 2) determining the purpose of concept analysis; 3) identifying the use of concepts found in various works of literature; 4) determining definition attributes; 5) determining case models; 6) determining borderline cases and conflicting cases; 7) identifying antecedents and consequences; and 8) determining empirical references.[17] Before using the Walker and Avant method, the researcher conducted a descriptive literature review to identify the process of theory development that can be used to strengthen this conceptual analysis research. This study exempt require ethical approval.[18]

This study was approved by the Health Research Ethics Committee of the Faculty of Health Sciences, Universitas Muhammadiyah Tangerang, Indonesia (173/KEP/III.3.AU/F/FIKes/2024) and was exempted from ethical review.

Search Strategy

The literature search used several electronic databases, including ScienceDirect, PubMed, EBSCO, and SAGE, from January 2006 to June 2024. The keywords used in the search were determined based on Medical Subject Headings (MeSH), focusing on "trauma prevention," AND "trauma prevention care," AND "trauma prevention natural disasters."

Inclusion and Exclusion Criteria

Articles were included in the analysis if they were (1) original full text researches on natural disaster or conducted in disaster/disaster-prone area, (2) related to the concept of trauma prevention care, (3) written in English, (4) available in open access, and (5) published in 2006-2024 (Figure 1). Those excluded were systematic reviews, meta-analyses, narrative reviews; conducted during the COVID-19 pandemic; there was duplication; and the full text article could not be accessed.

Data Extraction and Analysis

The selected articles were analyzed using the Walker and Avant concept analysis method. This approach involved categorizing articles depending on whether they met at least one criterion related to the antecedents, attributes, and consequences of trauma prevention care.[17] The selected studies were screened for data duplication, followed by an eligibility assessment for final inclusion. Data were extracted following the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines.[19] Data were extracted from each selected article during the analysis, and information on the antecedents, attributes, consequences, and empirical references of trauma prevention care was tabulated.[17] The literature search identified 80 articles in the fields of medicine, nursing, sociology, and psychology. After analysis, 13 articles were selected for this study (Table 1). Furthermore, the

researchers continued to analyze the selected 13 articles to identify the analytical concepts inherent to them (Table 2).

RESULTS

Selecting a Concept

Experiences such as physical, sexual, or emotional abuse; neglect; technological, natural, or human disasters; terrorism; unexpected property loss; violence from friends or family; domestic, family, or community violence; serious accidents; experiences as refugees or combatants; life-threatening illness; mental illness; and substance abuse can all lead to trauma.[5,33] Between 2000 and 2019, approximately 510,837 people died and 3.9 billion people were affected by disasters.[34] Eleven people (36.7%) experienced mild symptoms and 18 people (60%) experienced symptoms leading to PTSD in the earthquake disaster in Cianjur, West Java, Indonesia.[35]

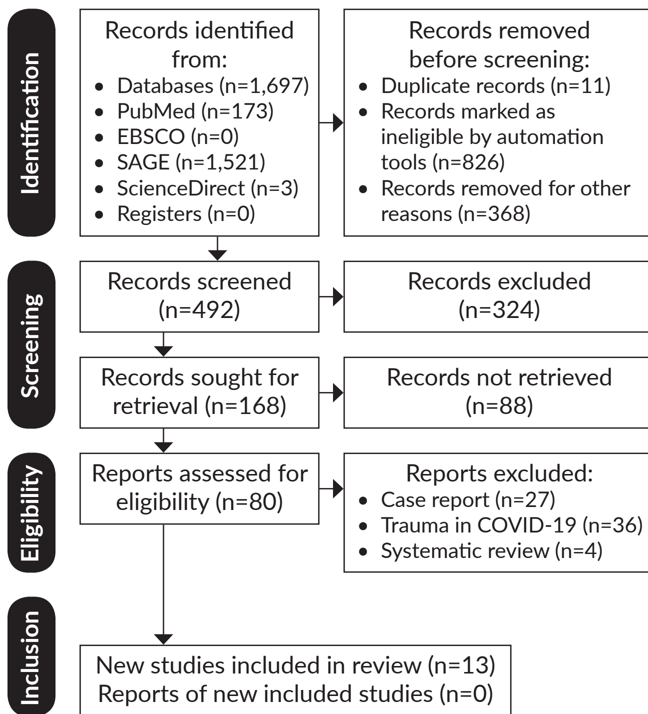

Figure 1. PRISMA flow chart.

Determining the Purpose of the Analysis

Walker and Avant's methodology, identifying as many uses of the concept as possible, is shown.[17] According to Merriam-Webster, trauma is "a state of psychological or behavioral disturbance resulting from severe mental or emotional stress or physical injury." Preventive can be interpreted as "having education or knowledge, possessing or presenting information; enlightened." The word 'nursing' conveys the "responsibility or concern for health, well-being, and safety."[36] According to Walker & Avant's theoretical conception, psychosocial elements are included in addition to the conventional physical-based symptoms when examining the true nature of the notion outside of the nursing or medical literature.[17] This study aims to define trauma-preventive nursing within the framework of nurses as caretakers. The results will give research and practice a framework for nursing care in trauma prevention in areas prone to disasters, from conception to operational definition.

Identifying the Use of the Concept

Trauma

In the past, the term "trauma" described the physical wounds that troops received during combat and then, later, the psychological anguish that veterans went through.[37]

Table 1. List of Included Articles in Concept Analysis

No.	Author (Year)	Country of Origin	Methodology	Form of disaster	Component of Concept Analysis
1	Que et al. (2022)[20]	Cina	Cross-sectional study	Flash floods and mudslides	√
2	Keskin et al. (2024)[21]	Turkey	Descriptive and cross-seconal survey	Earthquake	√
3	Norris et al. (2010)[22]	USA	Random population survey	Hurricane Ike	√
4	Niu et al. (2023)[23]	China	Qualitative descriptive method	Natural disaster-prone areas	√
5	Duron-Figueroa et al. (2020)[24]	Mexico	Single case quasi-experiment design	Earthquake	√
6	Rahill et al. (2015)[25]	Haiti	Qualitative design	Earthquake	√
7	Jordans et al. (2021)[26]	Nepal	Cluster randomized controlled trial (cRCT)	Floods	√
8	DeYoung et al. (2020)[27]	USA	Cross-sectional prospective design	Floods	√
9	Kasaoka et al. (2023)[28]	Jepang	Descriptive research	Earthquake	√
10	Ruskin et al. (2018)[29]	USA	Cross-sectional studies	Hurricane Sandy	√
11	Anwar et al. (2013)[30]	Pakistan	Predictive correlational study	Earthquake	√
12	James et al. (2019)[31]	Haiti	Randomized controlled trial (RCT)	Earthquake and Floods	√
13	Yin et al. (2019)[32]	China	Cross-sectional survey	Earthquake	√

Table 2. Summary of Antecedents, Attributes, and Consequences of Trauma Prevention Care in Natural Disaster-prone Areas

Article Author (Year)	Antecedent (a)	Attribute (b)	Consequence (c)
Que et al. (2022)[20]	Edu	Kno	Ass; UT
Keskin et al. (2024)[21]	Edu	Kno	Ass; PS
Norris et al. (2010)[22]	Tra; Edu	Kno	Ass; PS; UT
Niu et al. (2023)[23]	Ski	Car; Rec; Resp	Ass; Saf; Reso; LoN
Duron-Figueroa et al. (2020)[24]	Ski; Edu	Rec; Car; Com	Ass; Saf; Reso; PS
Rahill et al. (2015)[25]	Ski; Tra	Rec; Car; Resp; Com	Ass; Saf; PS; UT
Jordan et al. (2021)[26]	Ski; Edu	Kno; Car; Com	Ass; PS; UT
DeYoung et al. (2020)[27]	Edu	Kno	LoN
Kasaoka et al. (2023)[28]	Edu	Kno	Saf; PS; UT
Ruskin et al. (2018)[29]	Ski; Edu	Kno; Rec	Ass; PS
Anwar et al. (2013)[30]	Ski; Tra	Kno; Rec; Resp; Com	Ass; Saf; PS; UT; LoN
James et al. (2019)[31]	Ski	Kno; Com	PS
Yin et al. (2019)[32]	Edu	Kno	Ass; PS

Note: (a) Antecedent: Trauma (Tra); Education (Edu); Skills (Ski); (b) Attribute: Knowledge (Kno); Recognition (Rec); Caring (Car); Respect (Resp); Communication (Com) & (c) Consequence: Assessment (Ass); Safety (Saf); Resource (Reso); Psychological Stress (PS); Unidentified Trauma (UT); Limitations of Nurse (LoN)

Psychological trauma was frequently linked to "moral weakness" as a component of one's deficiency because talk therapy and rest are the recommended clinical treatments.[38] The study of neurobiology realized in the 1990s that, even in the absence of physical harm, emotional trauma from a range of experiences has a profound impact on the body and brain. Natural catastrophes, violence, abuse, neglect, racism, political upheaval, and similar events can all cause trauma in individuals. Throughout history, nurses who have cared for traumatized patients have also gone through trauma.[39,40] Adverse Childhood Experiences (ACEs) are instances of childhood trauma stress. Evidence indicates that over 50% of individuals have experienced ACEs and that these events are a direct source of major long-term health issues.[41] Adverse childhood experiences are frequently considered forms of trauma that have extended continuing effects on one's physical and mental well-being.[42,43]

Trauma prevention care

Renaming "trauma prevention care" as "trauma-informed care," SAMHSA's Substance Abuse Treatment Center incorporates essential elements like admitting the ubiquity of trauma, appreciating its impact, implementing trauma-sensitive procedures and policies, and eschewing actions that could cause people to become retraumatized. These actions are collectively referred to as the "4-Rs" of trauma-informed care: (a) realizing, (b) recognizing, (c) responding, and (d) resisting retraumatization.[44] Trauma-informed care methods encourage healthy coping mechanisms to handle upsetting emotions and lessen helplessness.[33] Within the nursing profession, trauma preventive care is understood as a framework to identify how previous trauma shapes present behavior and coping mechanisms. By considering this, nurses can reduce the likelihood of retraumatization during patient care.[42,45]

The six guiding principles of SAMHSA's trauma-informed approach have been the subject of many literature works. These include (a) safety (both psychological and physical); (b) transparency and trustworthiness (where decisions that are transparent foster and uphold trust); (c) peer support (including from those who have experienced the traumatic event); (d) collaboration and mutuality (across relationships, with meaningful sharing of decision-making and power); (e) empowerment, voice, and choice (eliminating power differentials and enhancing self-advocacy skills); and (f) cultural, historical, and gender issues (rejecting stereotypes and biases by leveraging access to necessary connections).[46]

According to Hornor et al., it is challenging to define trauma preventive care consistently across the literature due to differences in conceptualization between organizations and disciplines.[43] The best practices for trauma-informed care in child health were reviewed. References to the four R's—trauma awareness (recognizing), trauma-focused evidence-based practice (recognizing), use of standardized screening measures (responding), and organizational implementation related to collaboration, service coordination, safe physical environments, written policies, and affirmative leadership (resisting retraumatization)—were found.[45,47,48]

Defining Attributes

Walker and Avant describe attributes as qualities that help define an idea.[17] After thoroughly examining how the concept was applied in each preserved source, the distinguishing characteristics of trauma prevention care were determined.[17] The concept of trauma prevention care, as it has been previously described in the literature on pediatric

nursing, characterizes this framework as "strengths-based" and "emphasizes physical, psychological, and emotional safety for providers and survivors" to provide opportunities for the reconstruction of a sense of control and empowerment.[43] Another feature of trauma prevention care is concern for trauma awareness.

Effective trauma prevention care necessitates an understanding and accommodating acknowledgment of the value and needs of those who have suffered trauma in the past. A wide range of behaviors, emotional anguish, melancholy, attention issues, scholastic challenges or failure, nightmares, and physical illnesses, frequently exhibited as gastrointestinal pain, frequent headaches, or inflammatory reactions, are examples of clinical signs of trauma.[15,42,43] Recognizing the high frequency of trauma exposure, which is considered to be an epidemic, particularly in early life, is a component of trauma awareness. According to studies, 48% to 60% of people report having experienced at least one ACE.[43] The key characteristics frequently connected to an idea define its traits. The following are the characteristics of trauma prevention: knowledge, recognition, caring, and respect.

1. "Facts, information, and skills that a person has acquired through experience or education" defines knowledge. In order to address (1) psychosocial treatment, (2) available resources, and (3) health inequities linked to gender, color, culture, religion, sexual orientation, and social groupings, knowledge is the key component of trauma prevention care.[13,20,21,32]
2. "The act of accepting that something exists, is true, or is legitimate" is the meaning of recognition. As a feature of trauma prevention care, recognition centers on four key areas: (1) identification of trauma symptoms; (2) ensuring both physical and psychological safety; (3) fostering self-efficacy, collaborative decision-making, and a supportive atmosphere; and (4) providing a social support network for trauma survivors. “Caring” is having an interest or involvement in one’s life. As a feature of trauma prevention care, caring focuses on three attributes: (1) being truthful about rules and processes, (2) attending to the needs of individuals, and (3) fostering and upholding the trust of those who have experienced trauma.[23,25,30,31,49,50]
3. "Respect" can be defined as "treating someone or something you consider important with courteousness or care." Respect, as one of the components of trauma preventative treatment, centers on a nonjudgmental attitude by health care providers that equates power imbalances and grants patients agency.[23,25,31,43,49]
4. Communication is a two-way communication between nurses and patients/families. Nurses can communicate to carry out trauma prevention care by conducting assessments, communicating with patients/families, and examining the psychological condition of patients/families in natural disaster areas. Communication can be used to conduct deeper assessments or to determine the problems faced by patients/families.[25–27,31,50]

Identifying Antecedents and Consequences

Antecedents

Events that consistently occur before the concept are referred to as antecedents.[16] First, healthcare professionals (HCPs) need to be aware that physical or emotional trauma has been done to seek trauma prevention care. HCPs need to be mindful that trauma, both physical and emotional, can happen alone or in combination as a result of medical procedures, sexual assault, intimate partner violence, abuse or neglect, other violent or nonviolent activities that cause injury, or even reading about or being exposed to accounts of traumatic occurrences.[4,51] Second, there needs to be instruction on each of the SAMHSA-identified components of trauma prevention care. Education ought to emphasize trauma detection and safety for HCPs, families, and survivors of trauma. Healthcare professionals need to be educated about how trauma manifests itself in various contexts.[52] Lastly, to provide trauma prevention treatment in the real world, HCPs need to be skilled in therapeutic communication. People who have gone through trauma in the past or present need to believe that therapy communication validates their value as human beings.[53]

Consequences

The results of providing care for trauma prevention are called consequences. Outcomes include assessment, safety, resources, psychological stress, unidentified trauma, and limitations of nurses. The relationship between the definition of trauma prevention care and its antecedents, attributes, and consequences is illustrated in Figure 2.

Identifying model cases

A model case should be an example that demonstrates the defining attributes of a concept to fully articulate the meaning of the concept.[54,55] The model case for trauma prevention is exemplified in the combined case of Nurse F, a practitioner of independent nursing practice. Meanwhile, Mrs. N is a client with Diabetes Mellitus (DM) who often comes to Nurse F’s clinic for her DM wound care. At one time in the area, there was a tremor due to an earthquake, and Mrs. N panicked and ran out of the house. Her head hit an object in front of her in the process. After that, Mrs. N became stressed and terrified about leaving the house and often screamed when there was a rumbling sound as if an earthquake was happening. After a few days, the fear of leaving the house persisted. Therefore, Mrs. N’s DM wound care at Nurse F’s clinic had come to a halt, leaving the wound no longer treated. Realizing that something was wrong with Mrs. N's condition, Nurse F took the initiative to conduct telenursing to find out Mrs. N's current condition. Nurse F also talked with other colleagues to develop trauma-informed policies, along with procedures and best practices for implementing telenursing. This insight is to help different clients who may be experiencing the same problems. Nurse F conveyed to Mrs. N to practice activities

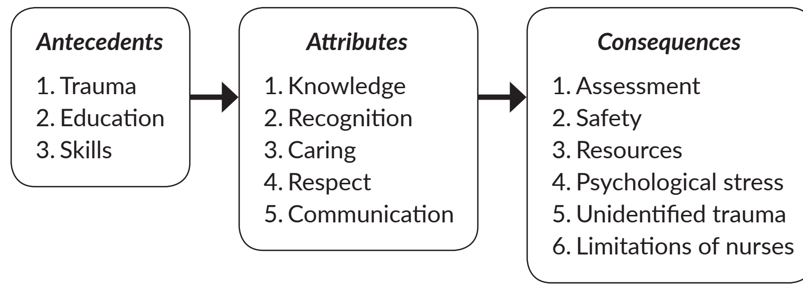

Figure 2. Relationship of Antecedents, Attributes, and Consequences in trauma prevention care.

that could reduce anxiety and worry after the earthquake. Nurse F also explained the importance of continuing the treatment of Mrs. N's DM wound. On the next visit via telenursing, Mrs. N was ready to visit Nurse F's clinic. Based on these attributes, Nurse F implemented trauma prevention care for Mrs. N.

Identify Additional Cases (Identify Borderline, Related, Contrary)

Identify borderline

A borderline case contains most but not all the attributes, while a contrary case provides a clear example of what is not a concept.[15,16,55] A borderline case for trauma prevention care is exemplified as follows: Nurse A works in the emergency unit of the same hospital as Nurse F. When the earthquake struck, the emergency unit was flooded with victims who needed immediate care. Nurse A attempted to apply the principles of trauma prevention care in responding to patients and situations but faced several challenges. Nurse A had a basic understanding of trauma prevention care, but her training and experience were limited, which impacted her ability to implement all aspects of trauma prevention effectively (Knowledge). Nurse A recognized the importance of psychological safety for patients, but the primary focus remained on physical safety and immediate medical response, given the urgency of the emergency department situation (Recognition). Nurse A attempted to respond to individual patient needs, but in a busy emergency setting, it was often difficult to provide detailed attention to each patient's psychological needs (Concern). Nurse A attempted to respect patients' autonomy and listen to their concerns, but time and resource constraints hindered Nurse A's ability to do so consistently (Respect). Nurse A assessed the patient to determine the problems faced in this disaster (Communication).

Related case

As stated by Walker and Avant, related cases are similar or connected to the main concept.[17] A related case for trauma prevention care is exemplified in the following combined case. Dr. L is a clinical psychologist at a hospital located near Nurse F's clinic. When the earthquake hit, many patients and staff at the hospital were traumatized. Dr. L took the initiative to implement a trauma prevention care approach in response to this situation. Dr. L led debriefing sessions for patients and staff to discuss their experiences, providing a safe space to share and listen. Dr. L coordinated with the care team to incorporate trauma prevention care practices into all aspects of care, including patient meetings, care plans, and follow-ups. Dr. L advocated for policy changes at the hospital that were more supportive of a trauma prevention approach, including trauma prevention care training for all staff.

Contrary case

The contrary case is exemplified as follows. Nurse R works at a public health clinic located not far from the earthquake-affected area. Although the building did not experience significant physical damage, many patients who came were traumatized by the disaster. (Non-Existing Concept Application) At Nurse R's clinic, patients were treated with a highly clinical physical-focused approach without integration of care that considered the psychological impact of trauma. The clinic environment was not designed to reduce stress or promote psychological safety for patients; for example, a crowded and noisy waiting room could increase anxiety. There was no initiative to train staff on trauma-informed aspects of care, and psychological support for patients and staff was either unavailable or very limited.

Determining empirical references

Walker and Avant claim that empirical references offer a method for a concept to be observed and quantified by people in practice and research, as well as an objective means of confirming a concept's existence.[17] To investigate potential empirical references for trauma prevention treatment, a thorough analysis of the concept's application in each of the retained sources was carried out (Table 3). When abstract ideas like trauma prevention care are explored, empirical references—which represent real phenomena that demonstrate the reality of a concept—can be challenging to locate. The paper indicates that the creation of a logic model for the application of trauma-affected systems or leadership in the future to support the growth of culturally reparative organizations built to withstand re-traumatization is necessary and could make empirical reference easier.

Table 3. Empirical References

No	Name of instrument and reference	Dimension	Cronbach alpha value	Sample
1.	Organizational Trauma Resilience Assessment (OTRA)[56]	Consists of five domains with 40 questions: Training and maintaining trauma responsiveness (16 items); Culture of trust and support conditions (6 items); Practice Assessment (7 items); Collaboration and empowerment (6 items); Trauma response services (5 items)	Cronbach alpha value 0.968 (0.818-0.949)	Conducted on 861 people at 12 sites in the United States
2.	Measuring Trauma-Informed Care of Nurses Working with Traumatically Injured Patients[57]	Contains three domains with 30 question items: Knowledge about TIC (8 items), Behavior about TIC (10 items), and Practice about TIC (12 items)	Cronbach alpha value 0.939 and validity value 0.971	Conducted on 293 nurses in China in hospitals with rooms suitable for care
3.	Trauma-Informed Care Provider Assessment Tool (TIC-PAT)[58]	Comprises five domains forming TIC with 10 question items: Communication and Patient-centered care (2 items); Health understanding of the impact of trauma (2 items); Interprofessional collaboration (2 items); Understanding of trauma history and reactions (2 items); and Trauma screening (2 items)	Cronbach alpha value 0.98	Conducted on 176 physicians practicing in primary care in the United States In a community health center setting

DISCUSSION

The results of this study reveal that the first attribute is knowledge. This attribute explains that one shall acquire information, truth, and skills through experience or education. Knowledge becomes an attribute in trauma prevention because it focuses on mastering skills that nurses can carry out psychosocial care with existing resources and can carry out care with differences in gender, race, religious culture, sexual orientation, and sexual groups.[13,59] Nurses utilize knowledge to proficiently provide suitable care to patients with trauma who have cultural differences.[60] Culture is very influential in responding to someone facing a trauma.[61–63] Ethnic differences in pain perception have been documented in a variety of clinical pain conditions, generally showing that, for certain conditions characterized by persistent pain complaints, African Americans report more significant pain and suffering compared to the Caucasian race.[64] For example, African Americans report more agonizing pain in conditions such as glaucoma, AIDS, migraine, jaw pain, postoperative pain, myofascial pain, angina pectoris, joint pain, nonspecific daily pain, and arthritis compared to the Caucasoids.[65] In addition, other cultures also consider that gender, especially men, must be able to withstand the pain they experience. This statement is also supported by the theoretical concept of Adverse Childhood Experiences (ACEs), which are proven to incite trauma reaching adulthood.[41,43] Knowledge and culture may differ for trauma prevention in disaster areas. During and after a disaster, it is crucial to recognize culturally sanctioned stress responses that may prevent individuals and families from seeking mental health care. Healthcare providers must also be mindful of their ethical duty to provide culturally appropriate care.[66,67]

In many religious beliefs, natural disasters are seen as a response to previous conjunctures, so it is believed that disasters occur as a reminder to get closer to the Almighty.[68,69] Furthermore, having unwavering faith to pull through within oneself so that nurses and trauma prevention service providers can offer optimistic encouragement to open up to avoid developing accumulated unpleasant feelings into trauma in the future.[12]

The second attribute is recognition, which means accepting that something is true and exists. In this attribute, the trauma prevention service provider is in the form of recognition, which will focus on the signs and symptoms of trauma, the safety and psychological needs of the patients, facilitating self-efficacy, shared decision-making, and a supportive environment and social support for survivors.[13,49,70]

Recognition is one of the abilities that trauma prevention service providers must excel in to be able to recognize early the signs and symptoms of trauma in an effort to avoid it and improve the circumstance to beneficial post-traumatic growth.[12,71] In addition, support from peer groups to prevent trauma is tremendous.[72,73] Calhoun et al. specified that positive peer relationships protect individuals from traumatic stress only at certain intervals from childhood to adolescence and not precisely during adolescence.[74] The results of the present study suggest that the role of quality peer relationships during this transition period shows developmental specificity. This finding may have implications for the role of peer relationships as a protective factor among adolescents who have experienced trauma so that self-efficacy will increase and they will be able to make the right decisions to avoid trauma in the future.[75]

The following attribute in this study, concern or respect, is one's interest in being involved in trauma prevention by paying close attention to individual needs, providing appropriate policies on trauma problems experienced, and maintaining trust in those affected by trauma.[49] This attribute emphasizes that a trauma prevention service provider can empathically convey what problems sufferers are facing. In addition, empathy is a skill that trauma prevention service providers must acquire to be able to understand trauma and its impacts more profoundly in an attempt to increase mutual

trust between involved parties.[76,77] If the client feels reassured, trust will gradually be built, eventually making sharing one's feelings more comfortable.[78] Empathy between clients and healthcare professionals contributes significantly to the behavior of both groups as well as their overall therapy and well-being.[77] Empat can be practised to understand patients and their needs because humans are unique and different from one another; nurses will show empathy and caring attitudes and treat patients with compassion.[79,80] Nurses show that they are accessible and ready to listen to patients in a patient-centered care process, a fundamental requirement for nurses to show authenticity and empathy despite the high workload.[81] Demonstrating empathy, active listening, respect, and treating patients with dignity are at the heart of nursing and care and are recognized in the Nurses' Code of Ethics.[82,83]

The next attribute is respect, defined as polite behavior towards something or someone. This respect is one of the essential attributes to prevent trauma because it is one of the non-verbal forms to be able to communicate with clients who are experiencing trauma.[43,49,59] This form of respect does not equate one client with another so that they can solve their problems, and nurses can provide broad autonomy for clients in making decisions.[84] This is stated in nursing ethics to care for patients: to bring out beneficence and autonomy for the clients under the care.[85] Furthermore, respect is one of the actions that can support communication to be able to dig deeper into the root of the problem of clients who experience trauma and can provide an overview to be able to solve the problems from a nursing perspective.

The last attribute is communication. Communication occurs in nurses in two directions between nurses and patients/families. This can be done to educate patients or their families.[25,30] In addition, communication can also be done to examine more deeply the problems patients face after the natural disaster they experience.[26] Communication is one of the things that can be done to deepen the psychological condition or other trauma in patients or their families. This allows nurses to use communication to carry out trauma prevention care in communities prone to natural disasters.[31,50] Furthermore, special training is needed to deepen nurses' communication skills in carrying out trauma prevention care in areas prone to natural disasters.

Limitations of the Study

This conceptual analysis research has several limitations, starting from the article selection process. Selecting articles has been carried out comprehensively, but there is still the possibility that specific articles may be accidentally excluded due to the search and analysis methods used. Furthermore, there are limitations in discussing operational definitions that are not specific to antecedents, attributes, and consequences in trauma prevention care. The researcher conducted a comprehensive article review in collaboration with experts to resolve this issue. Finally, while the model cases presented are based on real-life situations, certain artificial elements are intentionally included in the model to reduce the potential for future conflicts of interest.

CONCLUSION

This concept analysis can be implemented in the operational definition of trauma prevention care in nursing practice and research. Understanding the attributes of trauma prevention care along with its antecedents (trauma, education, skills) and consequences (assessment, safety, resources, psychological stress, unidentified trauma, and limitations of nurses) can facilitate development in nursing practice. Trauma prevention care is operationally described as knowledge, recognition, caring, respect, and communication (attributes) for the care of victims who have endured physical or emotional trauma, according to the concept analysis results. Both qualitative and quantitative data can be used to measure the operational effectiveness of trauma prevention treatment. Interviews with nurses or trauma survivors may be utilized as qualitative metrics for trauma prevention care. A nurse simulation environment can be used to quantify trauma prevention care, and licensed practitioners can assess licensed nurses on their knowledge, skills, and capacities in providing trauma prevention care. Social policy pronouncements that mandate ethical care, the obligation to apply a trauma-informed approach to all patients encountered, and the patient-centered care principles promote nursing. This concept of trauma prevention care can be used to conduct trauma assessment and prevention in natural disaster areas to minimize the impact that will occur.

Statement of Authorship

Both authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

Both authors declared no conflicts of interest.

Funding Source

None.

REFERENCES

1. Rosenberg H, Errett NA, Eisenman DP. Working with Disaster-Affected Communities to Envision Healthier Futures: A Trauma-Informed Approach to Post-Disaster Recovery Planning. Int J Environ Res Public Health; 19. Epub ahead of print 1 February 2022. doi: 10.3390/ijerph19031723.
2. Latuperissa GR, Rumaolat W, Susanti I, et al. Systematic Review A Systematic Review of the Effect of Social Support on Post-Traumatic Stress Disorder in Post-Earthquake Adolescents. Jurnal Ners; 15. Epub ahead of print 2020. doi: 10.20473/jn.v15i2.18998.
3. Wijoyo EB, Susanti H, Panjaitan RU. Nurses' perceptions regarding the impact of natural disasters. In: Improving Health for Better Future Life: Strengthening from Basic Science to Clinical Research. Taylor & Francis Group, 2023, pp. 1–11.

4. Figueroa RA, Cortés PF, Marín H, et al. The ABCDE psychological first aid intervention decreases early PTSD symptoms but does not prevent it: results of a randomized-controlled trial. Eur J Psychotraumatol; 13. Epub ahead of print 2022. doi: 10.1080/20008198.2022.2031829.
5. Downey C, Crummy A. The impact of childhood trauma on children's wellbeing and adult behavior. European Journal of Trauma and Dissociation; 6. Epub ahead of print 1 February 2022. doi: 10.1016/j.ejtd.2021.100237.
6. Moran S. Life Purpose in Youth: Turning Potential Into a Lifelong Pursuit of Prosocial Contribution. Journal for the Education of the Gifted 2020; 43: 38–60.
7. Boyle A. Remembering events and representing time. Synthese 2021; 199: 2505–2524.
8. Drummond JJ. Self-identity and personal identity. Phenomenol Cogn Sci 2021; 20: 235–247.
9. Owusu E, Shalaby R, Eboreime E, et al. Prevalence and Determinants of Generalized Anxiety Disorder Symptoms in Residents of Fort McMurray 12 Months Following the 2020 Flooding. Front Psychiatry; 13. Epub ahead of print 24 June 2022. doi: 10.3389/fpsyt.2022.844907.
10. İme Y. The Effect of Online Cognitive Behavioral Group Counseling on Anxiety, Depression, Stress and Resilience in Maraş-Centered Earthquake Survivors. Journal of Rational - Emotive and Cognitive - Behavior Therapy. Epub ahead of print 1 June 2023. doi: 10.1007/s10942-023-00526-x.
11. Brooks S, Amlôt R, Rubin GJ, et al. Psychological resilience and post-traumatic growth in disaster-exposed organisations: overview of the literature. BMJ Mil Health 2020; 166: 52–56.
12. Riffle OM, Lewis PR, Tedeschi RG. Posttraumatic growth after disasters. In: Positive Psychological Approaches to Disaster: Meaning, Resilience, and Posttraumatic Growth. 2020. Epub ahead of print 2020. doi: 10.1007/978-3-030-32007-2_10.
13. Beecher C, Devane D, White M, et al. Concept development in Nursing and Midwifery: An overview of methodological approaches. International Journal of Nursing Practice; 25. Epub ahead of print 1 February 2019. doi: 10.1111/ijn.12702.
14. Lee J-Y, Kim S-W, Kim J-M. The Impact of Community Disaster Trauma: A Focus on Emerging Research of PTSD and Other Mental Health Outcomes. Chonnam Med J 2020; 56: 99.
15. Guest H. A concept analysis of trauma-informed care. Nurs Forum (Auckl) 2021; 56: 1000–1007.
16. Juanamasta IG, Aungsuroch Y, Gunawan J. A concept analysis of quality nursing care. J Korean Acad Nurs 2021; 51: 430–441.
17. Walker LO, Avant KC. Strategies for theory construction in nursing (6th ed.). Pearson Custom Library, 2019.
18. Kang J, Kim H, Cho OH. Quiet quitting among healthcare professionals in hospital environments: A concept analysis and scoping review protocol. BMJ Open; 13. Epub ahead of print 19 November 2023. doi: 10.1136/bmjopen-2023-077811.
19. Moher D, Liberati A, Tetzlaff J, et al. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 2009; 6: 1–5.
20. Que T, Wu Y, Hu S, et al. Factors Influencing Public Participation in Community Disaster Mitigation Activities: A Comparison of Model and Nonmodel Disaster Mitigation Communities. Int J Environ Res Public Health; 19. Epub ahead of print 1 October 2022. doi: 10.3390/ijerph191912278.
21. Keskin G, Yurt E. Evaluation of the Situations of Coping with Mental Trauma and Trauma in Emergency Service Personnel Who Medically Intervened to Earthquake Affected People in the 2020 Izmir Earthquake. Disaster Med Public Health Prep; 18. Epub ahead of print 2 February 2024. doi: 10.1017/dmp.2023.237.
22. Norris FH, Sherrieb K, Galea S. Prevalence and Consequences of Disaster-Related Illness and Injury From Hurricane Ike. Rehabil Psychol 2010; 55: 221–230.
23. Niu A, Ma H, Chen Z, et al. Exploring the competencies of Chinese critical care nurses in mobile medical teams based on the onion model: A qualitative study. Nurs Crit Care 2023; 29: 868–879.
24. Durón-Figueroa R, Cárdenas-López G, Quero S. Efficacy of an Early Cognitive-Behavioral Intervention for Acute Stress Disorder in Mexican Earthquake Victims. Span J Psychol 2020; 23: e36.
25. Rahill GJ, Joshi M, Lescano C, et al. Symptoms of PTSD in a sample of female victims of sexual violence in post-earthquake Haiti. J Affect Disord 2015; 173: 232–238.
26. Jordans MJD, Kohrt BA, Sangraula M, et al. Effectiveness of Group Problem Management Plus, a brief psychological intervention for adults affected by humanitarian disasters in Nepal: A cluster randomized controlled trial. PLoS Med; 18. Epub ahead of print 1 June 2021. doi: 10.1371/journal.pmed.1003621.
27. DeYoung SE, Lewis DC, Seponski DM, et al. Disaster preparedness and well-being among Cambodian– and Laotian–Americans. Disaster Prevention and Management: An International Journal 2020; 29: 425–443.
28. Kasaoka S, Naito H, Uchigashima Y. Poor Environmental Conditions Created the Acute Health Deteriorations in Evacuation Shelters after the 2016 Kumamoto Earthquake. Tohoku Journal of Experimental Medicine 2023; 261: 309–315.
29. Ruskin J, Rasul R, Schneider S, et al. Lack of access to medical care during Hurricane Sandy and mental health symptoms. Prev Med Rep 2018; 10: 363–369.
30. Anwar J, Mpofu E, Matthews LR, et al. Risk factors of posttraumatic stress disorder after an earthquake disaster. Journal of Nervous and Mental Disease 2013; 201: 1045–1052.
31. James LE, Welton-Mitchell C, Noel JR, et al. Integrating mental health and disaster preparedness in intervention: A randomized controlled trial with earthquake and flood-affected communities in Haiti. Psychol Med 2019; 50: 342–352.
32. Yin Q, Wu L, Yu X, et al. Neuroticism Predicts a Long-Term PTSD After Earthquake Trauma: The Moderating Effects of Personality. Front Psychiatry; 10. Epub ahead of print 20 September 2019. doi: 10.3389/fpsyt.2019.00657.
33. Grossman S, Cooper Z, Buxton H, et al. Trauma-informed care: Recognizing and resisting re-traumatization in health care. Trauma Surg Acute Care Open; 6. Epub ahead of print 20 December 2021. doi: 10.1136/tsaco-2021-000815.
34. Centre for Research on the Epidemiology of Disasters (CRED). 2021 Disasters in numbers. 1st ed. Brussels, 1 December 2021. Epub ahead of print 1 December 2021. doi: 10.1787/eee82e6e-en.
35. Pangaribuan SM, Karolus Siregar H, Widiastuti SH, et al. Respon Trauma Pada Pengungsi Gempa Bumi Cianjur Jawa Barat. Jurnal Ilmu Keperawatan Jiwa 2023; 6: 554–563.
36. Merriam Webster. Definition . https://www.merriam-webster.com/dictionary/trauma 2024; 1–1.
37. Engelbrecht A, Burdett H, Silva MJ, et al. The symptomatology of psychological trauma in the aftermath of war (1945-1980): UK army veterans, civilians and emergency responders. Psychol Med 2019; 49: 811–818.
38. Leshem S, Keha E, Kalanthroff E. Post-traumatic stress in war veterans and secondary traumatic stress among parents of war veterans five years after the 2014 Israel-Gaza military conflict. Eur J Psychotraumatol; 14. Epub ahead of print 2023. doi: 10.1080/20008066.2023.2235983.
39. Fowler KR, Wholeben MA. Understanding the Impact of Trauma in Hispanic Nursing Students: Resilience and Learning Outcomes. Hisp Health Care Int 2022; 2147483647.
40. Powers LD, Cook PF, Weber M, et al. Comorbidity of Lifetime History of Abuse and Trauma With Opioid Use Disorder: Implications for Nursing Assessment and Care. J Am Psychiatr Nurses Assoc 2022; 2147483647.
41. Center for Disease Control and Prevention. Adverse childhood experiences (ACEs): Preventing early trauma to improve adult health. https://www.cdc.gov/vitalsigns/aces/index.html 2023; 1–1.
42. Goddard A, Jones R, Etcher LA. Trauma informed care in nursing: A concept analysis. Nurs Outlook 2022; 70: 429–439.
43. Hornor G, Davis C, Sherfield J, et al. Trauma-Informed Care: Essential Elements for Pediatric Health Care. Journal of Pediatric Health Care 2019; 33: 214–221.

44. Samhsa. SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach. 2014.
45. Dowdell EB, Speck PM. CE: Trauma-Informed Care in Nursing Practice. Am J Nurs 2022; 122: 30–38.
46. Substance Abuse and Mental Health Services Administration. SAMHSA's 2023-2026 data strategy. https://www.samhsa.gov/about-us/data-strategy 2023; 1–1.
47. Freese JB. Towards Trauma-Informed Buddhist Spiritual Care: A Mutual Critical Correlation of Vipassana Meditation and Somatic Experiencing. Pastoral Psychol 2023; 72: 447–464.
48. Sophia S, Anderson R, Bigasin J, et al. Trauma-Informed Care (TIC) Interventions: An Evidence-Based Trauma-Informed Care (TIC) Interventions: An Evidence-Based Practice Project Practice Project Recommended Citation Recommended Citation, https://sophia.stkate.edu/ (2019).
49. Mitchell S, Shannon C, Mulholland C, et al. Reaching consensus on the principles of trauma-informed care in early intervention psychosis services: A Delphi study. Early Interv Psychiatry 2021; 15: 1369–1375.
50. Durón-Figueroa R, Cárdenas-López G, Quero S. Efficacy of an Early Cognitive-Behavioral Intervention for Acute Stress Disorder in Mexican Earthquake Victims. Span J Psychol 2020; 23: e36.
51. Hahn AM, Adams ZW, Chapman J, et al. Risk reduction through family therapy (RRFT): Protocol of a randomized controlled efficacy trial of an integrative treatment for co-occurring substance use problems and posttraumatic stress disorder symptoms in adolescents who have experienced interpersonal violence and other traumatic events. Contemp Clin Trials; 93. Epub ahead of print 1 June 2020. doi: 10.1016/j.cct.2020.106012.
52. Palfrey N, Reay RE, Aplin V, et al. Achieving Service Change Through the Implementation of a Trauma-Informed Care Training Program Within a Mental Health Service. Community Ment Health J 2019; 55: 467–475.
53. Knight C. Trauma Informed Practice and Care: Implications for Field Instruction. Clin Soc Work J 2019; 47: 79–89.
54. Kennedy S, Booth R. Vicarious trauma in nursing professionals: A concept analysis. Nurs Forum (Auckl). Epub ahead of print 2022. doi: 10.1111/nuf.12734.
55. Hadadian-Chaghaei F, Haghani F, Taleghani F, et al. Nurses as Gifted Artists in Caring: An Analysis of Nursing Care Concept. Iran J Nurs Midwifery Res 2022; 27: 125–133.
56. Brown LL, Pennings J, Steckel S, et al. The Organizational Trauma Resilience Assessment: Methods and Psychometric Properties HHS Public Access. Psychol Trauma 2023; 1–23.
57. Xia W, Wang Y, Wu X, et al. Development of a Questionnaire for Measuring Trauma-Informed Care of Nurses Working with Traumatically Injured Patients. J Multidiscip Healthc 2024; 17: 367–378.
58. Hanson CL, Crandall A, Novilla MLB, et al. Psychometric Evaluation of the Trauma-Informed Care Provider Assessment Tool. Health Serv Res Manag Epidemiol; 11. Epub ahead of print 1 January 2024. doi: 10.1177/23333928241258083.
59. Bruce MM, Kassam-Adams N, Rogers M, et al. Trauma providers' knowledge, views, and practice of trauma-informed care. Journal of Trauma Nursing 2018; 25: 131–138.
60. Vujanić J, Mikšić Š, Barać I, et al. Patients' and Nurses' Perceptions of Importance of Caring Nurse–Patient Interactions: Do They Differ? Healthcare (Switzerland); 10. Epub ahead of print 1 March 2022. doi: 10.3390/healthcare10030554.
61. Chentsova-Dutton Y, Maercker A. Cultural Scripts of Traumatic Stress: Outline, Illustrations, and Research Opportunities. Front Psychol; 10. Epub ahead of print 15 November 2019. doi: 10.3389/fpsyg.2019.02528.
62. Theisen-Womersley G. Trauma and resilience among displaced populations: A sociocultural exploration. Springer, 2021. Epub ahead of print 20 April 2021. doi: 10.1007/978-3-030-67712-1.
63. Vredeveldt A, Given-Wilson Z, Memon A. Culture, trauma, and memory in investigative interviews. Psychology, Crime and Law. Epub ahead of print 2023. doi: 10.1080/1068316X.2023.2209262.
64. Rambachan A, Noorulhuda H, Fang MC, et al. Pain Assessment Disparities by Race, Ethnicity, and Language in Adult Hospitalized Patients. Pain Management Nursing 2023; 24: 393–399.
65. Campbell CM, Edwards RR. Ethnic Differences in Pain and Pain Management. Pain Manag 2012; 2: 219–230.
66. Rahmani M, Muzwagi A, Pumariega AJ. Cultural Factors in Disaster Response Among Diverse Children and Youth Around the World. Current Psychiatry Reports 2022; 24: 481–491.
67. Appleby-Arnold S, Brockdorff N, Jakovljev I, et al. Applying cultural values to encourage disaster preparedness: Lessons from a low-hazard country. International Journal of Disaster Risk Reduction 2018; 31: 37–44.
68. Aksa FI, Aksa F. Affiliation. Jàmbá-Journal of Disaster Risk Studies 2020; 2072–845.
69. Rumahuru YZ, Kakiay AC. Rethinking Disaster Theology: Combining Protestant Theology with Local Knowledge and Modern Science in Disaster Response. Open Theology 2020; 6: 623–635.
70. Isobel S, Delgado C. Safe and Collaborative Communication Skills: A Step towards Mental Health Nurses Implementing Trauma Informed Care. Arch Psychiatr Nurs 2018; 32: 291–296.
71. Wijoyo EB, Susanti H, Panjaitan RU, et al. Nurses' perception about posttraumatic growth (PTG) after natural disasters. BMC Proc 2020; 14: 19.
72. Mandal M, Calhoun LM, McGuire C, et al. Using structural equation modeling to examine the influence of family planning social norms on modern contraceptive use in Nigeria. Frontiers in Sociology 2022; 1: 1–12.
73. Sokol RL, Zimmerman MA, Perron BE, et al. Developmental Differences in the Association of Peer Relationships with Traumatic Stress Symptoms. Prevention Science 2020; 21: 841–849.
74. Calhoun CD, Stone KJ, Cobb AR, et al. The Role of Social Support in Coping with Psychological Trauma: An Integrated Biopsychosocial Model for Posttraumatic Stress Recovery. Psychiatric Quarterly 2022; 93: 949–970.
75. Pignault A, Rastoder M, Houssemand C. The Relationship between Self-Esteem, Self-Efficacy, and Career Decision-Making Difficulties: Psychological Flourishing as a Mediator. Eur J Investig Health Psychol Educ 2023; 13: 1553–1568.
76. Lansing AE, Romero NJ, Siantz E, et al. Building trust: Leadership reflections on community empowerment and engagement in a large urban initiative. BMC Public Health; 23. Epub ahead of print 1 December 2023. doi: 10.1186/s12889-023-15860-z.
77. Moudatsou M, Stavropoulou A, Philalithis A, et al. The role of empathy in health and social care professionals. Healthcare (Switzerland); 8. Epub ahead of print 2020. doi: 10.3390/healthcare8010026.
78. Kwame A, Petrucka PM. A literature-based study of patient-centered care and communication in nurse-patient interactions: barriers, facilitators, and the way forward. BMC Nursing; 20. Epub ahead of print 1 December 2021. doi: 10.1186/s12912-021-00684-2.
79. Acea-López L, Pastor-Bravo MDM, Rubinat-Arnaldo E, et al. Job expectations and intolerance to uncertainty of nursing students: Results from a multicentre, mixed-methods study in Spain. Nurse Educ Pract 2022; 62: 103337.
80. Yoo HJ, Lim OB, Shim JL. Critical care nurses' communication experiences with patients and families in an intensive care unit: A qualitative study. PLoS One; 15. Epub ahead of print 1 July 2020. doi: 10.1371/journal.pone.0235694.
81. Mumba MN, Kaylor SK, Townsend H, et al. Improving Confidence in Clinical Assessment Skills Through Service-Learning Experiences Among Nursing Students. J Nurs Educ 2022; 61: 272–275.
82. Doe MJ. Nursing Ethics Embedded in Nursing Theoretical Frameworks. Nurs Sci Q 2022; 35: 270–272.
83. Kangasniemi M, Pakkanen P, Korhonen A. Professional ethics in nursing: an integrative review. J Adv Nurs 2015; 71: 1744–1757.
84. Haahr A, Norlyk A, Martinsen B, et al. Nurses experiences of ethical dilemmas: A review. Nurs Ethics 2019; 27: 258–272.
85. Molina-mula J, Gallo-estrada J. Impact of nurse-patient relationship on quality of care and patient autonomy in decision-making. Int J Environ Res Public Health; 17. Epub ahead of print 1 February 2020. doi: 10.3390/ijerph17030835.