Disaster Related Resiliency Theory among Older Adults Typhoon Haiyan Survivors

Abstract

Understanding resilience involved in the capability of older adult disaster survivors to deal with one natural disaster to another has been the focal point of several studies. Various nursing theories explain resiliency after a disaster strikes. However, there is no theory that centers on the resiliency process among older adults post disaster. A qualitative study was conducted utilising a grounded theory approach. A total of 14 older adults Typhoon Haiyan survivors participated in the study. They were chosen by purposeful sampling followed by theoretical sampling in order to attain conceptual and theoretical saturation. The data were gathered through in-depth interviews which took place in temporary shelter homes. A grounded theory of disaster related resiliency theory was generated according to the subcategories and categories thus developed. The path of life recovery post-disaster were derived from three categories: (1) Participants' perception of strength, (2) Resilience started within oneself, and (3) Maintaining a Positive Attitude. This set of categories provides coping mechanisms which are important in adopting disaster resiliency. Understanding this process provides a more expedient and effective medical response to older adult survivors and allows an understanding of the factors which influence disaster resilience.

Introduction

Exposure of populations to natural disasters has steadily risen in recent decades making them a global concern. Disasters such as the Nepal earthquake (2015), Hurricane Matthew in Haiti (2016), and the China Flood (2017), caused so much destruction (e.g., houses and livelihood), serious physical, cognitive, economic, psycho-social problems, and leaving thousands of corpses.

This results to overwhelming one's normal capacity and exceeds their innate ability to cope effectively. The Centre for Research on the Epidemiology of Disasters (CRED), (2016) reported that over the last 20 years, the Philippines has constantly ranked within the top five most disaster-hit countries. Therefore, it is one of the most disaster risk countries and also the most exposed to typhoons in the world. In 2013, Typhoon Haiyan, the deadliest natural disaster ever recorded, swept through the country and was also one of the strongest ever recorded (Sedghi, 2015). The impact of this typhoon event went far beyond physical damage of property and infastrtucture. This resulted in a wide range of intense, confusing, and sometimes frightening emotions. In addition to this, one of the most vulnerable groups of the population affected by this disaster were older adults (Rajeev, 2016). Likewise, Jia (2010) further stress that their vulnerability to the disaster trauma is linked to their weakened physical health, decreased sensory responsiveness, chronic diseases, and social limitations that prevent preparation for disasters. It also hinders their coping response during disasters. Further, as disasters steadily increased its frequency, and global costs, the risk to human suffering cannot be eliminated (Thomas & Lopez, 2015). Hence, it seems that people cannot rely on their national government to ensure comprehensive and effective emergency response and recovery.

Due to several natural disasters experienced over the past decade, disaster prevention and precautionary measures are established in both developed and developing nations. For instance, Chou & Wu, (2014) found a high emphasis on disaster resiliency concepts, and disaster response techniques to protect both the health care professionals, and disaster survivors from post trauma. In the analysis of Cutter, Ash, & Emrich (2014), they noted that disaster resilience is becoming the standard framework for augmenting people disaster emergency planning and preparedness, in the short term, and climate change mitigation in long term policy. It was also highlighted as an

important topic for the past decade as demonstrated by current research in the United States (United States National Research Council, 2012), and in the United Kingdom (United Kingdom Foresight, 2012). In similar reports, disaster resilience heightens people's ability to plan and prepare for crises and recover more successfully from potential adversity. Comes (2016) proposed that several conceptual models of disaster resilience were interrelated from a set of networks capacities. For instance, contemporary literatures suggested that previous disasters experiences, cultural norms, (Mercer et al., 2012; Paulraj & Andharia, 2015) information loading (Dufty, 2012; Houston et al., 2015) and social support (Fitri, Iskandar, Rismijati & Abidin, 2015) bring public awareness about the impact of disaster resiliency. Hereby, prevent any possible physical damages, psychological trauma and emotional trauma. Other studies have also found out that a person's attitude (Hsu, 2017), spirituality (Sherry & Curtis, 2017), locus of control (Antwi-Boasiako, 2017) and extent of satisfaction of needs (Dias, Keraminiyage & DeSilva, 2016) promotes positive coping. All of these concepts form interconnected networks which interact in order to provide a positive perspective towards disaster resilience.

Nevertheless, despite several studies suggesting that all these concepts are associated with disaster resilience, previous literature did not describe the process of disaster resiliency among older adults survivors (Chan, Tang, Hall, Yip, & Maggay, 2016). This concept has become increasingly important in disaster prone countries. There is also limited information pertaining to the evidence exploring disaster resiliency in depth. Since disaster resiliency is a subjective and complex concept that transpires from individual context and is controlled by different factors, it cannot be quickly assessed by quantitative analysis. Further, various disciplines were keen on disaster recovery, however, there is a dearth of empirical studies which have been conducted to explore disaster survivors' perspectives (Labarda , Labarda, & Lamberte, 2017; Nakhaei,

Khankeh, Masoumi, Hosseini, & Parsa-Yekta, 2016). It is uncertain what the health care professionals should do to enhance disaster resilience (Schoch-Spana, Sell, & Morhard, 2013). Therefore, a theoretical study of disaster resiliance in disaster risk areas becomes imperative. The current study developed a grounded theory approach, describing and explaining the disaster-related resiliency, from an older adult survivor's perspective. This investigation provides important concepts on older adults' adaptation patterns after adversity. Finally, the result of this study could provide a theoretical framework which would be useful for designing and implementing disaster risk protection strategies and policies.

Method

Design

A theory method was used in the study to develop a Disaster Related Resiliency theory in Older Adults (Strauss & Corbin, 1990). A constant comparative approach of network of concepts throughout the entire research process. This research design was appropriate in order to handle the research questions and as a result of this approach it (i) helps in examining little-known areas, (ii) generates rich and comprehensive information that add to deeper understanding of an issue, (iii) comprises of data gathering in natural settings, (iv) embraces participants ideas themselves, and (v) through creating the world visible has the potential to rework that world (Creswell, 2013).

In the current study, the researchers were attentive as to what happened to survivors before, during and after the disaster and also as to the way they recovered. The core statement of grounded theory is that people become clear as to their social world although, to the outsider, their world could seem irrational. Persons sharing common conditions (e.g., older adult's disaster experience,

common perceptions, thoughts, and behaviors,) are the essence of what grounded theory can bring out through analysis (McCann & Clark, 2003).

Research settings

The study was conducted in three shelter homes in Eastern Philippines, a location vulnerability to several types of natural disasters (e.g. typhoon, earthquake, storm surge, and volcano eruption).

Participants

A total of 14 older adults Typhoon Haiyan Survivors were included in the study (3 men and 11 women) and were interviewed to reach for data saturation, ranging between 65 to 72 years of age, who experienced Typhoon Haiyan (Table 1).

To better understand the disaster experience, the selection of the participants were based on the following criteria: a) age 60 and above who experienced the disaster, b) living with families or living alone c) speaking in English or their own dialect, and d) freely consented to participate. Exclusion criteria were: those non-autonomous, cognitively and physically impaired. The selected sample was directed throughout the constant comparative process, the emerging categories, and data saturation. (e.g., the gathered data were repetitive, no new codes developed or existing codes were not extended) (Corbin & Strauss, 2008). No tests were utilised to determine the sample size, however, rather many factors determined the sample size. These factors comprised of research

questions, the researcher's knowledge and topic ability (disaster resilience) of the research, and the participants capability in expressing their disaster experiences to form concepts (Corbin & Strauss, 2008).

Sampling and recruitment

Purposive sampling was utilized to establish the data richness (settings and participants) within the study (Corbin & Strauss, 2008). Consistent with grounded theory methods, theoretical sampling was used. Theoretical sampling is described as data gathering that is driven by concepts identified from the evolving theory and involves going to people, places, or events to more fully understand something that is only partially known (Corbin & Strauss, 2008). Sampling continued until data saturation was reached. The sample size was determined by saturation through a sampling process (Corbin & Strauss, 2008). This mean that research guided the data collection, and the process continued until no new concept was acquired (i.e., the researcher concluded that collected data were repeated, new codes were not being developed or existing codes were not extended, and all categories were well developed in terms of properties, dimensions, and variations) (Corbin & Strauss, 2008). The present study had a narrow research focus but the researcher had considerable experience and knowledge of the topic under investigation. Therefore, it was possible to obtain sufficient data with fewer participants. Once the codes started to represent a pattern that demonstrated theory, saturation was achieved (Broussard, 2006). The researchers worked closely with trained recruiters from the four organizations to identify potential participants who were given an information letter and invited to participate on a voluntary basis. Upon acceptance, recruiters sent participants the consent form to review.

Data gathering

After obtaining permission from the relevant authorities as well as the participants, data were collected over the period of four months (January-May 2015) at the respective residence of each participant.

The current study used in-depth, semi-structured interviews throughout. Each interview began with an open question, for example, *"How are you doing right now?"* Followed by Questions to illuminate older adult's worldviews such as *"How long did you live here?", "What are the reasons you choose to live here?", and "How would you describe your life before the disaster?* Next, discourse of the study questions were asked such as *"Tell me about what happened before and after the disaster?", "How did you notice that the storm where coming?", "What was it like?", "What did you think then?" "How did you happen to survive?", "Who, if anyone, influenced your actions?", "Could you describe the events that led up your action to survive after the disaster?", What was going on in your life now?", "How would you describe the person you were then? Today?"* Finally, a reflection and closing questions were included as necessary and could describe prior disaster experiences. The interviews were recorded including non-verbal prompts. Thus, this enables the researchers to create a verbatim transcript. Constant theoretical sampling approach was used throughout the process. During the second visit, further interview questions were used, based on the first interview visit, to obtain in-depth insight experiences and confirmation by the participant. The interviews lasted between 45 and 60 minutes. In summary, a total of 26 interviews were carried out with 14 participants (14 interviews were carried out at time one and 12 at time two).

Analysis

Verbatim transcription were used throughout the recorded interviews and constant comparison with the recorded digital electronic files was undertaken so as to ensure consistency. The data were analyzed by taking the data apart, conceptualization of subcategories and categories in respect of dimensions and properties, thus, determining which parts tell us about the whole concepts (Corbin & Strauss, 2008). Initial coding was done from analysis of the initial interview. The participants were using words and phrases that highlight their experience during disaster. After this, coding relationships amongst the open codes and the connections amongst the codes using axial coding were identified. This explores the causal condition of resiliency, intervening and context conditions, particular strategies, and represents the whole process of disaster –related resiliency theory. After which, the core categories that includes all of the data through selective coding were selected (categories integrated during axial coding). This was also the time of deciding the core category, organizing and validating other categories, and filling in categories requiring further refinement and improvement. The participants' transcripts were analyzed in this way until data saturation (e.g., no new themes) was achieved at 14 interviews. Some of the concepts from the code were not necessarily sequential. This analysis continued until reaching a strong theoretical understanding (e.g., object, setting, event, or phenomenon developed). The QSR NVivo 9 computer program was used in assisting with the coding and categorizing the data.

Reliability

The credibility was determined through memos, participants' prolonged involvement, and participants' data revisions (member checks and peer checks). During data collection, analysis, and theory development, a reflective technique was established in enhancing the reliability and providing assurance that the theory development was an exact participants' description of their disaster experience. Further, an independent coder was included thus ensuring a higher degree of reliability.

Other experienced researchers (___) browsed the interview transcripts and independently identified categories. The developed coding of categories was then compared with the first author's work (___) (Appleton, 1995).

Other research members ( ) assured the rigor of the study findings through expert revision. Maximum variation of sampling established the conformability and credibility of the data. A peer check of the transcript sample was carried out by two nursing faculty members who were not included in the research team. The purpose was to confirm the fitness validity of the results. Transferability of the study results was conducted in three (3) different shelter homes in one city and two municipalities.

Ethical consideration

Approval of ethical clearance was sought and approved from the Ethics Board of City Health Unit (CHU-2015-02). All consented participants read the research information form and were given sufficient time for questions and concerns prior in signing the consent form for participation in the study. Researchers made it clear that the participants could withdraw from the research study at any time. Pseudonyms were used to ensure the anonymity of participants. No remuneration was offered for participation in the research study.

Results

Demographic Characteristics

In this study, 14 participants were interviewed during a four month period; the data gathering took place during January 2015 to May 2015. The majority of the participants were females, married, (74.9%), had experience of disaster, were actively involved in religious activities, and were farmers (see Table 1).

Axial Coding with Theoretical Coding Map

Figure 1 is presented as an emergent theory derived from the concept explaining the process of disaster-related-resiliency theory. The four theoretical categories were formulated from thirteen sub-categories. The theoretical categories were: perception of strength of the typhoon, resilience started within self, and choosing to stay positive. Further sub –categories were: cultural norms, listening to social media, previous experiences, early preparation for evacuation, taken for granted, recognizing adjustment, traumatic experiences, freedom to access the basic needs, keeping faith during hard times, finding ways, choosing to help, and accepting the situation. These sub-categories, further subcategories, and theoretical categories were interrelated and occurred simultaneously (see table 2).

THEORETICAL CATEGORY 1: Participants' perception of typhoon strength

The concept of disaster was utilized in this study as the knowledge pertaining to typhoon and the effect of them. It has one subcategory such as previous experiences behaviors.

Previous experiences behaviors. This is the first sub- category of the perception typhoon strength. It refers to how the older adults faces the encounter of previous disaster experiences such as that of a typhoon. ["Our house structure was made of light and flexible materials which is extremely simple and cannot be sustained during disasters," Participant no.2], ["Last 2013, many persons were left homeless," Participant no.11]. In previous experiences behaviors subcategory, there are two further subcategories namely: taking the situation for granted, and preparing for evacuation.

Taking the Situation for Granted. This further subcategory illustrated the action of disregarding the typhoon strength. ["We will evacuate if the typhoon approaches the town," Participant no.1], ["We experienced several typhoons in the past much stronger than this and our house was able to withstand it, no need to worry," Participant no.9].

Choosing to stay in the house. Before the typhoon, most participants resisted being evacuated. ["I cannot leave our house, our things might get stolen. If it's too strong (typhoon) that's the time that we

will evacuate," Participant no.14], and ["When the water level keeps rising up to our shoulder. That was the time we moved to the 2nd floor and even to the rooftop, Participant no.8].

Cultural norms. Culture is the second sub-category of one of the sources of knowledge in predicting typhoon strength. It comes from observing sea water conditions as well as animal behaviors. [The day before the typhoon, the wind was drizzling and sky is dark, and there were several thunderstorms from the south. I know there was a bad weather coming, Participant no.14], [There was strong wind in the sea, and birds were moving towards inland, it might be strong typhoon. Participant no.2]

Listening to Social Media. Listening to social media is the third sub-category which enables the participants to prepare, respond and recover in the face of disasters. ["We heard the news on radio; the landfall (typhoon) would take place tomorrow morning." Participant no.5], and ["I watched the news about the updates of typhoon," Participant no. 7].

Traumatizing experience. Several traumatic reactions among participants during and after disaster were seen. The conception of trauma can be gleaned in their experiences. When informants were asked to state their feelings during the disaster, they said that ["While we were in the hill, we heard several thunderstorms. I am afraid that another typhoon might come," Participant no.3], and ["I couldn't sleep, it brings back the traumatic memories," Participant no.10].

Recognizing adjustment. Adjustment to older adults was physically and economically challenging. The conception that adjustment can be gleaned in their experiences. When participants were asked to tell their adjustment during the disaster, they said that ["It is hard for me to walk when we were evacuating in the big house but we have to evacuate," Participant no.5], and ["Our house was completely drawn by the water level, we just slept outside of the house," Participant no.13].

THEORITICAL CATEGORY 2: Resilience started within self

Resilience started within self is the second theory category. It entails the capacity to adjust from disaster that comes from the inner strength and values. The inner strength to adjust plays a critical role for the fast recovery especially if the older adults see imminent danger towards their loved ones.

Three subcategories of resilience started within self and further subcategories emerged: Preparedness for the typhoon (sharing unselfishly, and social connection), freedom to access the basic needs, and keeping faith during hard times.

Preparedness for the typhoon. Resilience started within self was influenced by their typhoon preparedness. ["I'm prepared for this kind of situation as long as were intact, we can overcome these odds, Participant no.1"], and ["We already packed our things and belongings, so whatever happens, we are now ready to leave," Participant no. 8].

Preparedness for the typhoon has two further subcategories:

Sharing unselfishly. Willingness to confront the disaster means sharing something to others. Sharing unconditionally as common patterns older adult's survivors. ["After the typhoon there was scarcity of food and water resources: no food to eat, and no clean water to drink, but still I gave my remaining bread to my grandchildren," Participant no.14], and [I give the last remaining biscuits to my grandchildren. I know they are hungry now, Participant no.13]

Staying connected. Staying connected was the second further subcategory. It refers to how older adults attached to their loved ones. [After the typhoon, I make sure that they have eaten well because I don't want them to be hungry, Participant no.11], and [Every afternoon, I went in the waiting shed together with my neighbor, Participant no.3].

Having freedom to access individual physical needs. Accessing the basic needs is the second subcategory. Food and water is important for the survival needs of all individuals. Without appropriate

access to this need, it is hard for a person to survive as the participants described. ["Fish were everywhere, and we caught it," Participant no.4].

Having freedom to access individual physical needs has two further subcategories: institutional capacity and engaging in alternative livelihood.

Institutional capacity. Humanitarian aid can play a vital role in older adults' recovery. This provides positive transformation patterns in which older adults adjust the course of the crisis and its aftermath. ["The relief from the government made me happy. The 2 kilos of rice and sardines would last for 2 weeks," Participant no.9], and ["I am very thankful, I was given a house and a job. Thank you so much," Participant no.12].

Engaging in an alternative livelihood. A majority of the older adults depended on fishing, while others on coconut and rice farming. The livelihood provides them with financial capability in buying their basic needs. ["Our 14 sacks of copra were washed out. We were heavily in debt of money. Good that there was cash for work," Participant no.2], and ["Our coconut farm was destroyed, we don't have any alternative livelihood until we offered cash for work (non-government organization), for extra income," Participant no.14].

Keeping Faith in Hard Times. The third sub category is keeping faith in hard times. This subcategory means comfort (prayer) in times of trouble and difficulties. ["This is the time that we should look up to God and pray. We can surpass this," Participant no.4], and ["God helped us in this disaster. Please never leave us, forgive us," Participant no.8].

THEORETICAL CATEGORY 3: Maintaining a Positive Attitude

Maintaining a positive attitude is the third theoretical category of the process of becoming resilient older adults. Positive within oneself means a high level of commitment to pursue self- reliance.

["Things happened already, we cannot do anything about it," Participant no.5], and ["As long as I'm strong, I believe I can support my family," Participant no.9]. There were three further subcategories of staying a positive attitude: choosing to help, accepting the situation, and finding ways to survive.

Choosing to help. Choosing to help was the first further sub-category of staying a positive attitude. It refers on how older adults able to transmit values of caring to others. ["From dozens of sacks of rice grain, we only have single sack of it, half of this was given to our neighbors so that they can have something to eat," Participant no.11], and ["I give my last root crops to my grandchildren, they were too hungry," Participant no.13].

Accepting the situation. Accepting the situation was the second sub-category of maintaining a positive attitude. Adjusting their life means accepting the situation. ["Without food relief, I don't know if we can accept this situation, because we had nothing," Participant no.2]. ["Thanks to the non-government organization we receive a shelter. We were trying to accept our condition," Participant no.11].

Finding ways to survive. This third subcategory which means looking for ways and resources to survive. ["One of my sons fixed the boat, and tries to tie the rope so that it will not be washed out by the flood. I'm just commanding him," Participant no.8], and ["We used charcoal for cooking even though it's wet. We place 2 plywood on the floor so that we can sleep well. We were drinking the water through rain water harvesting," Participant no.6].

Discussion

This study highlighted the life recovery process of older adults after disasters. The results contribute to the exploration of the disaster resiliency process by recognizing several main related

categories. The three main categories (e.g., participant's perception of strength of typhoon, resilience started within self, and staying a positive attitude) were discussed in the study.

Firstly, older adult perceptions of typhoon strength depends on their degree of disaster exposure. This means that the perception of typhoon strength is dependent on how older adults' experience the previous disaster, information loading, and their cultural norms. This findings is consistent with earlier studies which investigated the disaster experience (Cutter et al., 2014), information loading (Dufty, 2012; Houston et al., 2015), and cultural norms (Mercer et al.,2012; Paulraj & Andharia, 2015) which were all shown to affect the perception of disaster. As most people learned and suffered from previous calamities in the country (e.g., Typhoon Bopha, 2012; Typhoon Washi, 2011) they were able to overcome the disaster trauma. Consequently, in the study of Hoffmann and Muttarakac (2017), the more people experience disaster, the more resilient they are. Individuals learned and experienced that they could handle adversity effectively, and felt satisfaction for having experienced this type of challenge. However, current studies have shown that people who consistently experience disaster, the more confident they are in their ability to survive, thus they choose to remain at their place of residence despite being in disaster prone areas. In a survey by Gowan, Sloan, & Kirk, (2015), it was found that evacuating during disaster would be the last option. The reasons included physical disabilities, do not have anyone to help them, do not hear the typhoon warning, and fear of their home being damaged or looted (Resnick, 2017). Nonetheless, the results should be interpreted with caution since disaster perception and previous experience is more complex and cannot be readily generalized (Gierlach, Belsher, & Beutler, 2010; Ievers & Bhatia, 2011). Therefore, future empirical studies should determine the factors affecting the perception of typhoon strength and previous disaster experience.

Secondly, results showed that the disaster resilience started within one's self. This implies that the willingness to confront and adapt from adversity came from their internal urges and desires felt by the

participants. Explicitly, the sense of person orientation and concern (towards self or others), spirituality, and the extent of satisfaction of needs are personal attributes occurring during the change process. This indicative findings corroborates previous studies that the sense of person orientation and concern (Parsons et al., 2016), spirituality (Sherry & Curtis, 2017), and the extent of satisfaction of needs (Hernantes, Labaka, Turoff, Hiltz, & Bañulsc, 2017) reduced the effect of disaster trauma and promotes adaptation. According to Rinkel & Powers (2017) the factors affecting one's self started by shifting their internal focus for them and for others, so that they can be willing to stand against adversity. Findings discussed the importance of capacitating their inner attributes which are central to self-recovery. It was evident from the study that this internal recovery process provides positive motivation towards coping.

Finally, during and after disaster, often people are traumatized and under emotional distress. However, based on the findings, older adults demonstrated that extent of satisfaction of needs, sense of person orientation and concern (towards self or towards others) were characteristics which promotes positivity. Building on these associated factors positively influence a contribution to recovery from trauma (Shultz et al., 2016). This is worth noting since some studies found that more people are positive in life, satisfied (Dias et al., 2016), and show concern to others (Parsons et al.,2016), the more positive they have physiological changes in the brain associated with happiness. It also helps to keep things in perspective. Thus, engaging in the positive behavior is a key to recovery from a natural disaster.

Furthermore, these positive characteristics are necessary during disaster recovery, however other studies mentioned that too much positivity can be harmful to others, leading to feelings of failure and depression. For example, a study by Kappes, Oettingen and Mayer (2012) found that positive fantasies

(a phenomenon characterized by too much experiencing of positive thoughts futuristically) predict low effort and little success in life.

Positive fantasies allow individuals to mentally experience a desired future in the present that conveys very little motivation to require certain actions in the future. This, thereby, allows them to mentally experience a positive future in the moment, while disguising the fact that effort should be endowed if this future is to be achieved. Hence, it can hamper their adaptation by attracting individuals to fantasize rather than achieve in actuality. Nevertheless, further empirical evidence is needed to support better understanding of optimism in older adults and what interventions they may need on tasks that demand effort and action.

Limitation of the study

Some limitations should be acknowledged when utilising this study's findings. Firstly, the qualitative data used in this study (older adults experience in disaster) were self-reported, which may have introduced to some extent an aspect of social desirability bias. Secondly, the number of participants were relatively small and drawn from temporary shelter homes, and therefore, the findings are less generalizable may not transfer to other settings. Future empirical findings are required to test this theory in other disaster risk area to validate its applicability. Thirdly, the analysis process (e.g., open coding, axial coding and comparative analysis) is a time-consuming, exhausting and strenuous process. Researchers may become so hindered and preoccupied with the coding process itself, that they may forget that in accomplishing the task there is importance in discovering new codes and themes that emerge from the data.

Future studies should be conducted using a mix of data-collection methods to further understand older adult's disaster-related resiliency experience.

Nevertheless, the researchers firmly believe that the above limitations have not undermined the purpose of this study. One of the most important results of this study has an intuitive appeal which permits the researchers engaged thoroughly within the data. This engagement is coded particularly during constant comparative approach of network of concepts throughout the entire research process. Finally, the conceptualization of the results provides simplification, in which the view of conceptualization splits the relevant from the non-relevant.

Conclusion

The Disaster Related Resiliency Theory among older adults provides a new conceptual process towards disaster recovery within a disaster risk region. Understanding the disaster resiliency process provides self-regulatory skills among older adults that can make them stronger in order to survive. Explicitly, the study offers a clear picture process, responses, and it explores their disaster life recovery.

As it demonstrated some contextual factors (e.g., perception of disaster, innate characteristics, and positivity) in the process that could aid in producing faster and more efficient response to older adult survivors. The key concepts of the theory provide important insights for LGUs and healthcare professionals in supporting and promoting these factors.

Relevance to nursing practice

During disaster preparedness, response, and recovery, nurses play vital role in promoting faster and more efficient response to older adult survivors. This study highlighted the relevancy of a grounded theory approach amongst disaster resilient older adults survivors. Several

recommendations can be drawn from the study findings. Firstly, it is described that disaster resilience characteristics can be enhanced and improved. Taking a broader perspective in gerontological nursing, mentorship programs focusing on key concepts (e.g. perception of disaster, innate characteristics, and positivity) are recommended. Mentorship programs might impart knowledge on disaster resilience by improving positive and supportive relationships, encouraging optimism, emotional awareness, spirituality, and an ability to find meaning during adversity. These skills can facilitate balance between negative trauma and resilience. Secondly, during the process of enhancing disaster resilience, nurses should provide greater significance on building supportive family and social nurturing relationships, life balance, and respecting cultural beliefs. Thirdly, articulating new ideas, technique and strategies amongst older adults, in order to increase assertiveness whilst living in a disaster-prone area. These new ideas and strategies, can be comprised of describing and sustaining their personal attributes of resilience. Finally, during disaster experience, using social support, focusing on innate ability, along with accepting the lessons of disaster experiences, insight into the needs of this population can be developed.

Declaration of interest

None

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