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Myth Evaluations of Nursing Students about Older Adults during Disasters

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Abstract

Ensuring the health welfare of older adults in emergencies and disasters is a public health problem. This study aims to analyze the evaluation of the myths, which older adults are exposed to during disasters and emergencies, by the nursing students of a university. The number of the students in the descriptive cross-sectional study was 377, and 83.0% of the population were reached. The data of the variables included some questions of the questionnaire used by the UNISDR in a research about the elderly and the myth questions in the book entitled International Disaster Nursing. 80.4% of the research group were female and 56.0 were junior class students, whereas 93.6% lived with both parents and 38.5% had a disaster. The mean (SS) age of the group was 19.89 (1.7) and the mean scores of the participants were 2.97 (1.07) for the Older People Myth Index (OPMI), 30.94 (6.19) for the vulnerability index and 6.41 (1.73) for the value index. . In logistic regression modeling with selected variables, there was a relationship between the junior variable and the OPMI. Accordingly, the junior class is inadequate in terms of elderly disaster myth rating compared to the senior class (OR = 2.11; GA = 1.055-4.225, p <0.05). There was a relationship between the students' OPMI scores and the junior classes. Therefore, it was found that education had a positive effect on the perception of older adults.

Keywords: Disaster, Nursing, Myth, Older Adults, University

1. INTRODUCTION

The location of older adults in disasters and emergencies is one of the important issues. Turkey will experience a significant growth in the population of older adults between 2020 and 2060. Older adults (65 and older) in Turkey in 2020 constitute 9.5% of the total population (about 8 million) and are expected to be 16.3% in 2040(Turkish Statistical Institute, 2021). As in almost every country, the population aged 60 and older is growing quickly, compared to other age groups in Turkey as a result of declining fertility rates and longer life expectancy. This demographic change has strong effects on sustainable development. As people get older, their health outcomes, needs, and the facts they care about may change. It can be said that public health policies and socioeconomic developments play an important role in these changes (WHO, 2018). In addition,

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older adults living with multiple chronic diseases and increased levels of physical and cognitive disabilities are becoming more common (McGuire et al., 2007). Despite this problem, it shows that current health systems in most countries of the world cannot meet the complex needs of elderly patients suffering from various disabilities (Beard et al., 2016). Regarding the care process, it is known that health professionals, including nurses, have problems managing the physical and psychological needs of hospitalized elderly adults (Heydari et al., 2019). Therefore, the increasing aging in Turkey constitutes a separate private area in which the focus must be on the needs of older adults, especially in disasters and emergency situations.

According to the report published by CRED and the United Nations Office for Disaster Risk Reductions (UNDRR: United Nations for Disaster Risk Reductions), 1.3 million people lost their lives, 4.4 million were injured, and homeless due to climate-related and geophysical disasters between 1998 and 2017. stayed, relocated, or needed help. While the majority of deaths are due to earthquakes and tsunamis (geophysical events), 91% of all disasters are due to floods, storms, droughts, heat waves and other extreme weather events.

Although the needs of older adults from disasters are limited (McSweeney Feld, 2017), they suffer from disasters with high morbidity (Gulley et al., 2017; McClelland et al., 2017) and mortality rates (McClelland et al., 2017). Therefore, researches should be intensified in the field of older adults disproportionately affected by disasters (Gulley et al. 2017). For example, when Hurricane Katrina struck New Orleans in 2005, about 15 percent of the citizens were 60 years and older; however, 75 percent of the deaths consisted of older adults (Adams et al. 2011). More than 95% of those dead in the tsunami disaster in Japan in 2011 were 60 years or older, and more than half of them had a chronic disease (Ichiseki, 2013). Therefore, the United Nations Office for Disaster Risk Reduction (UNISDR) launched the “Step Up” theme on the International Day for Disaster Risk Reduction on October 13th in 2011 in order to draw attention to vulnerable groups and elderly populations in disasters and emergencies and to prepare for the 2015 World Conference on Disaster Risk Reduction. Until the conference, one theme had been covered per year for 4 years. Among the themes, “Children and Youth” was discussed in 2011 and “Women and Girls” was discussed in 2012, whereas "Disabled People” was discussed in 2013 and "Elderly Populations" was discussed in 2014(Anon, 2018).

Myth as conceptual in the Turkish Language Institution Turkish Dictionary is a folk tale, myth, which is an allegorical narrative that is traditionally spread or changed by the influence of the imagination of the society; legendary concept or person” (TDK, 2022). Myths are false beliefs that are not based on evidence. Myths are a phenomenon that cannot be considered as a real mistake from a conceptual point of view. For those who accept the myths, this reality is eternally preserved. Among the features of myth is the narration of events, the narrative has a sacred quality, it uses sacred communication symbols, At least the events and objects that come in the myth neither appear nor exist in the world other than the myth itself (Cohen, 1969). In this respect, myths can be considered as permanent traces left by social perceptions. A myth theory should explain something about the phenomenon. Disaster events and the social traces they leave behind attract the attention of phenomenological research methods. Especially after natural disasters (earthquake, volcanic eruption, etc.), they are suitable events for the formation of legends.

Although there are many evidence-based studies on disasters, there are many misconceptions about its health and social outcomes (Jacob et al., 2008). Especially the negative attitudes and behaviors experienced by older adults who are exposed to discrimination and stigma in normal times are expressed by the concept of ageism (Richeson and Nicole Shelton, 2006). In disaster conditions, physical, economic and social needs of older adults may increasingly arise (Deeny et al., 2010). In addition to this, there are myths that increase the vulnerability of older adults in disasters. It is thought that it is important to know these needs and rumors especially for nursing

students who are expected to provide effective service in disasters. Although the current literature reflects important areas for nurses in disasters (Littleton Kearney and Slepski, 2008), it does not appear that a myth study about older adults in terms of nurses is referenced. Therefore, the need to determine the situation of nursing students through an academic study will form the basis for subsequent interventional studies. This study, therefore, aims to analyze the evaluation of the myths, which older adults are exposed to during disasters and emergencies, by the nursing students of a university.

2. MATERIAL AND METHOD

The population of the descriptive cross-sectional epidemiological research is composed of the students of the nursing department of a university (n = 454). In October 2016, 377 (83.0%) students who accepted to participate in the study were administered a questionnaire consisting of three sections and 12 questions under the supervision of the instructor and the researcher during the compulsory course hours. The data collection tool included some sociodemographic characteristics of the participants and the characteristics and myths related to older adults.

In the compilation of some questions about older adults, the questions of the questionnaire study used by the UNISDR (Anon, 2018) in a research about older adults were used. The reasons why "the elderly are more affected than the young and are vulnerable and valuable" are among these questions. The reasons for being vulnerable are low income, poor mobility, poor vision, poor hearing, lack of access to information, lack of access to technology, lack of safe housing and lack of community support. The reasons for being valuable include experience and leadership skills. An index was created for the reasons of being vulnerable and valuable. The vulnerability index consists of 8 items and the value index consists of 2 items. These indexes were directed to the participants with a five-point Likert-type scale. The scale range of the index was strongly disagree (1), disagree (2), undecided (3), agree (4) and strongly agree (5). The lowest score for the vulnerability index is 8 and the highest score is 40. The lowest score for the value index is 2 and the highest score is 10. High scores in the indexes express a positive outlook for the elderly.

The myth questions about older adults were taken from International Disaster Nursing (Burkholder Allen, 2010). There are six closed-ended myth questions prepared to determine the participants' approaches to some propositions about the situation of older adults who are an important group in disasters. In this context, the Older People Myth Index (OPMI) was established. The index gave 1 point for the correct answer and 0 point for the wrong answer. For the OPMI, the lowest score is 0 and the highest score is 6.

In the study, the data were analyzed using SPSS 18.0 software package, and the statistical differences were accepted as $p < 0.05$. The initial status of the variables was: date of birth (year), gender (male / female), class (first, second, third, fourth), place of residence (province, county, village), family type (nuclear, extended, fragmented), perception of income (bad, moderate, good), taking part in social responsibility projects (yes, no), experiencing disasters (yes, no), elderly people are more affected by disasters (yes, no).

Since the OPMI numerical variable was distributed normally, the average cut-off point was taken and a variable with dichotomous structure (below/above average) was formed. The chi-square test was employed for binary analyzes [(through the OPMI, gender, age (18, 19, 20, 21, 22 and above), class (junior: first and second grades / senior: third and fourth grades), place of residence (province / district / village), family type (one-parent: fragmented / two-parent: core and extended), perception of income (good / medium and below), taking part in a social responsibility work (yes / no), experiencing disaster (yes / no), 'elderly people are more affected by disasters

than youth' (yes / no)], while the Man-Whitney-U test (Vulnerability index and value index through the OPMI) was used for continuous variables that were inconsistent with normal distribution according to the results of the Kolmogorov Smirnov test.

Logistic regression modeling was performed through the OPMI index's dichotomous structure. Since the high scores in the OPMI index were considered to be positive, the above-average OPMI scores in the dichotomous structure were considered as a reference group in the modeling. Compared to the reference group, the subgroups of the independent variables included in the analysis of the OPMI were considered to be risky if they were above OR 1, whereas they were considered to be protective if they were below 1. For multivariate analysis, binary logistic model Backward (cond) method was used to predict the result between possible factors (age group, class group, disaster status and valuable index), which were determined in the former univariate analyzes ($p<0.20$), and the OPMI dichotomic structure. The Hosmer-Lemeshow test was used for model-fitting in the analyzes, and the cases with a level below 5% of the type 1 error level were interpreted as statistically significant.

In order to conduct the research, the ethics committee approval was obtained from the Clinical Research Ethics Committee of Çanakkale Onsekiz Mart University; the permission to apply the questionnaire was obtained from the Nursing Department; and the verbal consent was obtained from the students.

3. RESULTS

80.4% of those who accepted to participate in the study were female, 56.0 were junior class students and the mean (SS) age of the group was 19.89 (1.7 years). 93.6% (n = 353) of the participants had two parents, 72.7% had middle and lower income and 56.4% (n = 212) were residing in the province. 14.9% (n = 56) of the participants were involved in a social responsibility project and 38.5% (n = 145) experienced a disaster. 88.9% (n = 335) of the participants stated that older adults were more vulnerable than young persons.

The average of the Vulnerability Index scores of the students in the study is 30.94 ± 6.19. The median is 32, the smallest is 8 and the highest is 40 points. The average of the Value Index scores of the participants was 6.41 ± 1.73. The median is 6, the smallest is 2 and the highest is 10 points (Table 1).

Table 1. Reasons of the elderly being vulnerable and valuable in disasters.

Causes of being vulnerable (n=366)	**Average (SS)**	**Range**
Low income	3.57 (1.16)	1-5
Poor mobility	4.26[a] (1.04)	1-5
Poor vision	3.81 (1.14)	1-5
Poor hearing	4.07 (1.05)	1-5
Lack of access to information	3.75 (1.03)	1-5
Lack of access to technology	3.46[b] (1.22)	1-5
Lack of safe housing	4.04 (1.04)	1-5
Lack of community support	3.98 (1.04)	1-5

Vulnerability Index	30.94 (6.19)	8-40
Causes of being valuable (n=377)	**Average (*SS*)**	**Range**
Experienced in crises	3.32 (1.04)	1-5
Leadership skills	3.10 (0.95)	1-5
Value Index	6.41 (1.73)	2-10

a: Highest item. b: Smallest item.

Table 2 shows the distribution of the participants' responses to disaster myths about the elderly (Table 2). The mean OPMI scores of the participants is 2.97 ± 1.07. The median is 3, the smallest is 0 and the highest is 6.

Table 2. Disaster myth assessments of the elderly

Causes of being vulnerable	**True n (%)**	**False n (%)**
Older adults are always protected in extended families and communities (n = 377)	179 (47,5)	198 (52,5)
There are a few institutions that work exclusively for older adults (n = 364).	102 (28,0)	262 (72,0)
The needs of older adults can be met within the scope of general aid distribution (n = 376)	332 (88,3)	44 (11,7)
Elderly people are only concerned about themselves (n = 375)	30 (8,0)	345 (92,0)
Older adults are in a position of waiting for help (n = 374)	317 (84,8)	57 (15,2)
Older adults are too old to work (n = 374)	174 (46,5)	200 (53,5)

Chi-square test was used between the OPMI and gender, age, class, place of residence, family type, perception of income, taking part in a social responsibility work, experiencing disasters and 'older people being more affected than young people', while the Man-Whitney-U test was employed between the OPMI and vulnerability index and value index. A relationship was found between the OPMI and age, class and value index ($p < 0.05$). Since the variables associated with the OPMI in binary analyses are used in logistic regression modeling, these analyses are not given in the table (Table 3).

Table 3. Logistic regression between older people myth index and some variables

		n	Older People Myth Index	
			OR (%95 GA)	**p**
Class	Senior (Ref)	125		0.035
	Junior	114	2.11 (1.06 – 4.23)	

Correct classification %64,6, Hosmer-Lemeshow=0,.85
Ref: Reference
A The independent variables included in the analysis; age group, class group, disaster experience situation, value index

Logistic regression modeling was performed between the variables, selected according to the criteria determined in the method section, and the OPMI. In logistic regression modeling with selected variables, there was a relationship between the junior variable and the OPMI. Accordingly, the junior class is inadequate in terms of elderly disaster myth rating compared to the senior class (OR = 2.11; GA = 1.055-4.225, $p < 0.05$) (Table 3).

4. DISCUSSION

Support for older adults is important for all members of a community as well as for all healthcare professionals. In particular, nursing students should learn myths about older adults in order to understand the needs of older adults and to conduct clinical care services successfully in the future in disaster and emergency situations. However, there was no study in the literature concerning nursing students and myths about older adults.

It can be said that the nursing group students in this study did not receive any training on disasters. However, nursing students are expected to carry out medical response services in the field in case of disasters and emergencies in their professional lives in the future. Accordingly, myth evaluations made through a special group give important clues about students' expectations and perspectives on disasters. There is also no theory that confirms or disproves the myths people may have about the situation or behavior of older adults during disasters and emergencies. In this study, a study was carried out in line with the myths obtained from various field studies. The mean score of Vulnerability Index obtained from this study was high. In particular, the students state that older adults suffer more from disasters due to lack of access to technology. However, the needs of older adults in disasters and their resources for the use of assistive technology are limited (McSweeney Feld, 2017).

The mean score of the Value Index of the study was medium. The students can see that older adults are an important group in disasters because of the years of experience and the leadership characteristics they develop. The research has found that older adults tend to show greater resistance to trauma than younger individuals (Cook, 2002). One of the factors contributing to the resistance of older adults is the impact of previous trauma and disaster experiences (Brockie and Miller, 2017; Knight et al., 2000; Tuohy et al., 2014). Older adults who are exposed to disaster tend to be more flexible and have better psychological adjustment and less emotional distress after a disaster (Knight et al., 2000; Tuohy et al., 2014). Ferraro (Ferraro, 2003) argues that older adults can be better protected from the negative emotional reactions caused by disasters, since they have previously been exposed to natural disasters. This protective factor can be used as a source of coping and of increasing the overall resistance of both older adults and communities in the face of disasters (Tuohy and Stephens, 2012).

In this study, a relationship was found between OPMI and class. It can be said that education improves the perspective on older adults positively.

As nearly half of the students stated in this study, older people in extended families and communities are not always protected. Older adults, often neglected under normal circumstances, become even more vulnerable in disasters. However, during a disaster, social support from family or friends can reduce the probability of negative consequences (Adams and Boscarino, 2006; Watanabe et al., 2004). Neighborhood social capital can act as a source to support the mental and physical health of older people in the context of a disaster and to increase their ability to manage stressors (Heid et al., 2017). In addition, despite the protocols of the Madrid International Plan of Action on Aging (UN, 2002) and the Sphere (The Sphere Project n.d.), older people seem to be under-targeted. For example, in the 2004 Indian Ocean tsunami, aid efforts were confirmed to be

discriminatory. In many cases, older men and women have not been able to access health care, food and cash support due to lack of information or support mechanisms and discrimination (HelpAge International, 2005).

As most of the students stated in this study, their needs are not adequately met, as there are no institutions that provide special studies for older adults. There is no agency under the United Nations (UN) that directly addresses older adults. Some issues of older adults are being studied by the UNISDR which operates under the UN. In particular, the UNISDR used the theme "Elderly Populations" in 2014 (Anon, 2018).

As most students are mistaken in the study, supplying the nutritional, cultural and physical needs of older adults within the scope of general aid may be insufficient. For example, the food delivered in the 2004 Indian Ocean tsunami consisted of food which was difficult to digest and which could not be cooked easily (Hutton, 2008). It can be stated here that the special needs of older adults are not adequately reflected in emergency plans. Like charitable organizations, some of the students may have assumed that the needs of older adults can be met by their families. These assessments may lead to the disappearance of marginalized older adults within their community in relief operations.

As almost all the students stated in this study, older adults are not only concerned about themselves. Most elderly adults have the ability to cope with and adapt to bad events, despite their health and fragility that weaken with age. Elderly adults play various roles in their families and communities and often assist the community and families in the care of children and grandchildren. In Africa, during the epidemic of HIV / AIDS, older adults took the responsibility of raising thousands of orphaned children and grandchildren. In addition, older adults contribute to their communities through decades of accumulated experience, knowledge and understanding. This foresight makes them an important resource and a potential partner in the preparation of emergency preparedness and response programs (Hutton, 2008).

As most students were mistaken in the study, older adults do not always expect help. Most older adults want to help them, regain control of their lives, and contribute to their community as much as possible. In a 1998 report, The UN Refuge Agency proposed that older adults should be involved in education, training and income generation activities (UNHCR 1998).

As almost half of the students stated in this study, older people are not too old to work. Many older adults still contribute economically to the household and play important roles in decision-making. However, most older adults who work are either self-employed or work in the informal economy without social security. They may have to work long hours for low and irregular wages. Older people are also facing barriers to have an access to savings and credit services that allow them to invest and diversify their livelihoods. Therefore, in line with the Hyogo Framework for Action directives, countries and NGOs should recognize that older adults are an important element of disaster risk mitigation in disasters (Hartong, 2014).

There are some important limitations in the research. In the study, the students were not asked how they define or measure the concept of "elderly". This concept is thought to be related to the element of “old adults too old to work”. The myths used in the research were obtained from only one source. The indexes in the study were created by the researchers and no comparable studies were found. In addition, the descriptive cross-sectionality of the study is not sufficient to reveal causal relationships.

In this research, which aimed to evaluate the thoughts of nursing students who were expected to serve in a possible disaster in the future about older adults, the reasons why older adults were

vulnerable and valuable and the myths about the elderly were evaluated separately. The mean index score of the studied group was found to be medium and high. The students stated that older adults were most vulnerable due to lack of access to technology.

It was found that education had a positive effect on the perspective on older adults about myths. In order to increase this positive impact and raise awareness about the needs of older adults in disasters and emergencies, an elective course can be added to the curriculum. Nursing students examined in the scope of the research will be part of the health system in the future. Therefore, in order for health systems to be carried out efficiently in future disasters, it is necessary for students to gain qualifications related to vulnerable groups in disasters.

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