Fenerbahce University
Journal of Health Sciences
Volume 5, Issue 1, 24-37, 2025

Fenerbahçe Üniversitesi
Sağlık Bilimleri Dergisi
Cilt 5, Sayı 1, 24-37, 2025

FBU-JOHS

Disaster Preparedness of Generation Y Nurses and Related Factors

Y Kuşağı Hemşirelerin Afetlere Hazırlık Durumu ve İlgili Faktörler

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Abstract

Generation Y nurses constitute the majority of hospital staff. Therefore, it is important to determine the influencing factors by understanding their core competencies in the event of a disaster. The purpose of this study is to determine the core competencies of Generation Y nurses in disaster situations and to compare their personal and professional characteristics and experiences in disaster situations. The study was designed as a descriptive cross-sectional study with an online survey that included demographic information and the Nurses' Perceptions of Disaster Core Competencies Scale and conducted with 408 participants. The mean score of Generation Y nurses on the NPDCC was 151.18±30.11, and according to the subscales, they scored the highest on infectious diseases and outbreaks (6.04±3.04) and the lowest on nuclear accident preparedness (3.21±2.26). Educational level and the institution in which they work were found to be statistically significant differences in overall NPDCC in comparisons by nurses' personal and professional characteristics, with postgraduates and nurses working in a university hospital scoring higher ($p<.01$). However, the marital status, position and unit variables did not cause a statistically significant difference in the overall NPDCC score ($p>.05$). It is recommended that disaster core competency training programmes take into account generational differences.

Keywords: Disaster preparedness, disaster management, generation y, nurses

Özet

Y kuşağı hemşireler hastanelerdeki en büyük insan işgücünü oluşturmaktadır. Bu nedenle afet temel yetkinliklerini anlayarak etkileyen faktörlerin belirlenmesi önemlidir. Bu çalışmanın amacı, Y kuşağı hemşirelerinin afet temel yeterliliklerini belirlemek, kişisel, mesleki ve afet deneyimi özelliklerini karşılaştırmaktır. Araştırma kesitsel ve tanımlayıcı olarak tasarlandı. Veri toplama, demografik bilgileri içeren soru formu ve Hemşirelerin Afet Temel Yeterlik Algıları Ölçeği kullanılarak çevrim içi olarak yapıldı. Araştırma 408 hemşireyle gerçekleştirildi. Y kuşağı hemşirelerin NPDCC puan ortalaması 151,18 ± 30,11 oldu. Alt ölçeklere göre en yüksek puanı bulaşıcı hastalıklar ve salgınlardan (6,04±3,04), en düşük puanı ise nükleer kazalara hazırlıktan (3,21±2,26) aldılar. Hemşirelerin kişisel ve mesleki özelliklerine göre yapılan karşılaştırmalarda eğitim düzeyi ve çalıştıkları kurumun NPDCC genelinde istatistiksel olarak anlamlı farklılık oluşturduğu, lisansüstü mezunların ve üniversite hastanesinde çalışan hemşirelerin daha yüksek puanlar aldığı belirlendi ($p<,01$). Ancak medeni durum, pozisyon ve birim değişkenleri genel NPDCC puanı üzerinde istatistiksel olarak anlamlı bir farklılığa neden olmamıştır ($p>,05$). Afet temel yeterliliklerine ilişkin eğitim programlarının nesiller arası farklılıkları dikkate alması önerilir.

Anahtar Kelimeler: Afetlere hazırlık, afet yönetimi, y kuşağı, hemşireler

How to cite (atıf için): Simsek, Y. & Alan, H., (2025). Disaster preparedness of generation Y nurses and related factors. Fenerbahce University Journal of Health Sciences,5(1), 24-37. DOI: 10.56061/fbujohs.1395036

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DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

Submission Date: 23.11.2023, Acceptance Date: 04.04.2024, Publication Date: 30.04.2025

1. Introduction

It is believed that approximately five different generations live together in the world. With each new generation, people's lifestyles and perspectives toward life also change. Changing needs and individual qualifications that develop by these needs lead to differences between generations. These differences may constitute difficulties or facilities in performing certain actions (Başoğlu & Durmaz Edeer, 2017).

Two generations stand out in working life. Two of these generations are Generation X, which refers to those born between 1965 and 1979, and Generation Y, which refers to those born between 1980 and 1999 (Aydın & Başol, 2014). Between these two generations, Generation Y constitutes most of the workforce. In addition, the new Generation Z, born in the early 2000s, has also started to join the nursing workforce (Chicca & Shellenbarger, 2018). With each new generation, people's lifestyles and perspectives toward life also change. There are significant differences in personality, work styles, and expectations from the workplace among generations depending on social, political, and community characteristics and upbringing styles (Rickes, 2016).

Members of Generation Y have developed into independent individuals with very high self-esteem who learn at a young age (Adıgüzel et al., 2014; Sherman, 2015). However, they are not willing to work individually on a task because they are afraid of failing or making mistakes. They believe in collective action, prefer to work in groups, adapt easily to teamwork, value collaboration and sharing opinions (Adıgüzel et al., 2014; Hutchinson et al., 2012; Piper, 2012). They also perform highly on tasks where they can utilise their skills by bringing out the best in themselves and pushing them (Akdemir et al., 2013). If they consider the task they are doing worth getting tired of, they voluntarily work very hard. Given these characteristics, it can be assumed that Generation Y nurses are able to work cooperatively and cope better with the intense working conditions in disaster situations that threaten human lives.

Throughout history, disasters have taken an important place in human life. Recently, they have been encountered more frequently due to the impact of social, financial, environmental, and global changes (Kalanlar, 2018), which constitutes a source of national and/or international concern (Taşkıran & Baykal, 2019). The World Disaster Report (2020) reported 308 disasters that resulted in 24,396 deaths and affected the lives of 97.6 million people worldwide in 2019 (IFRC, 2020). Considering the recent large-scale earthquakes, in particular (1999 Marmara/Gölcük and Düzce earthquakes, 2011 Van earthquake, 2020, Elazığ and Van Earthquakes, etc.), floods, mining accidents, and terrorist attacks, Turkey is a country with a high risk of humanitarian crisis and disaster ((Disaster and Emergency Management Presidency, 2021; Taşkıran & Baykal, 2017). In addition, according to the World Risk Report, Turkey is ranked as the 12th highest-risk country (IFRC, 2015; Taşkıran & Baykal, 2019).

After the major disasters such as earthquakes, hurricanes, floods, and forest fires that have occured in various regions of the world and Turkey, the importance of disaster preparedness has begun to be

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DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

emphasized (Park & Kim, 2017; Taşkıran & Baykal, 2019). With the occurrence of disasters, the increasing need for health services peaks to the highest level and creates the need for rapid and

coordinated intervention that directly affects human life (İytemur & Yeşil, 2020). As a result of major disasters, it is necessary to develop the disaster competencies of nurses in addition to the implementation of disaster management policies. Two of the leading actions taken in this context are the establishment of the World Society of Disaster Nursing in 2008, followed by the publication of competencies for disaster nursing by the ICN in 2009. The ICN has emphasized that every nurse should have the core skills to plan and implement disaster care and preparedness (Taşkıran & Baykal, 2019; WHO, 2009).

Many studies have emphasized the role of nurses in disasters, and studies have been conducted on their disaster preparedness and competencies (Alan et al., 2022; Kalanlar, 2018; Park & Kim, 2017; Taşkıran & Baykal, 2017; Taşkıran & Baykal; 2019). However, no studies were found that examined the disaster preparedness and competencies of nurses depending on their generation. Previous studies have shown that nurses of different ages perform nursing practices in the same team (Alan et al., 2022; Park & Kim, 2017; Taşkıran & Baykal, 2017). This gap between nurses is gradually increasing, indicating not only an age gap but also a generation gap (Gutierrez et al., 2012). Generation Y, which is stated to be the most tenured generation in working life, also constitutes the vast majority of the nursing workforce in the healthcare system. Nurses are the most populous occupational group in this generation and play an important role in the healtcahre system. Therefore, it is important for society that they have the necessary skills for disaster competencies, are prepared for them and have adequate training to perform their duties quickly and effectively (Özyer & Dinçer, 2020).

2. Method

The study is descriptive, relational and cross-sectional. This study was reported in accordance with Strengthening the Reporting of Observational studies in Epidemiology (STROBE), which is used for cross-sectional studies.

2.1. Aim

The aim of the study is (1) to determine the level of disaster core competencies of Generation Y nurses and (2) to compare their personal and professional characteristics according to their disaster experiences.

2.2. The research questions

The research questions of the study are as follows:

•What is their level of disaster core competencies?

•What are the personal and professional characteristics that make a significant difference in their disaster core competency levels?

•What are the disaster experience characteristics that make a significant difference in their disaster core competency levels?

*Corresponding author: handanalan@yahoo.com
DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

2.3. Participants and setting

The population of the study consists of nurses working in private hospitals, state hospitals, and university hospitals in Turkey. The Minister of Health, Mr. Fahrettin Koca, announced that there are 204,969 nurses in Turkey (Sözcü Newspaper, April 10, 2020). The sample size was determined to be at least 384 nurses using the formula for calculating the sample size with a known population.

$$n= (Nt^2\, pq)/[d^2\, (N-1)]+t^2\, pq)$$

$$n= [204969 * (1.96)^2 * 0.5 * 0.5] / [(0.05)^2 * (204969-1) + ((1.96)^2 *0.5 * 0.5)] =383.5$$

It was aimed to reach at least 384 people within the scope of the research. Throughout the period allotted for the data collection process, a total of 468 nurses completed the online questionnaire. In the obtained data, "those born between 1981 and 2000" were coded as Generation Y (n = 403).

2.4. Data collection and instruments

The data was collected via a web-based survey between May and July 2020. A link to the survey was shared on social media accounts, including those of the researchers, and those who wished to participate voluntarily were asked to complete the survey. Participants were also encouraged to share the survey on their own social media accounts. The voluntary consent form was located on the first page of the online data collection instrument, which consisted of three pages in total. Once those who agreed to participate in the study had read the form and confirmed their voluntary participation, they could move on to other pages. The second page contained the introductory information form, and the third page contained the Nurses' Perceptions of Disaster Core Competencies Scale (NPDCC).

Introductory information form; The form consisted of a total of 15 questions including eight about their personal (date of birth, gender, educational background, etc.) and professional characteristics (current unit, professional experience, position, etc.), and seven about their disaster experience (exposure to disaster, working during a disaster, disaster nursing training, etc.). In this section, nurses were also asked "How do you rate your disaster preparedness as a nurse?" with response options of "Completely Unprepared" and "Completely Prepared" and scored between 0 and 10.

Nurses' Perceptions of Disaster Core Competencies Scale (NPDCC); was developed by Çelik (2010) based on the competencies recommended for nurses by the International Nursing Coalition for Mass Casualty Education (INCMCE, 2003) (Çelik, 2010). The scale consists of a total of 5 subscales and 45 items. The disaster core competencies of nurses were categorized as Critical Thinking Skills (CTS, four items), Special Diagnostic Skills (SDS, six items), General Diagnostic Skills (GDS, 13 items), Technical Skills (TS, 14 items), and Communication Skills (CS, eight items). The items are scored on a 5-point scale ranging from "This needs to be taught=1 point" to "I can do and teach it=5 points". The score to be obtained from the scale ranges from 25 to 225, and higher scores indicate a higher level of disaster core competencies. Celik (2010) reported that the alpha coefficients of the subscales varied between

*Corresponding author: handanalan@yahoo.com
DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

.81 and .92, which was .96 for the overall scale. The internal consistency of the measurements in the current study was between .89 and .95 in the subscales, while it was α=.98 for the overall scale.

2.5. Ethical considerations

Ethical approval to conduct th research was obtained from the Ethics Committee of Social and Humanities Research of XXX University (Date: 16.03.2020 Number: 74555795-050.01.04). Permission was obtained by email from the authors who developed the scale. Finally, on the first page of the online data collection instrument, the necessary information about the purpose, scope, and ethical issues of the research was provided and consent was obtained from the participants.

2.6. Limitations

It may be considered a limitation that the data were collected using a cross-sectional design and online survey method due to the social distance regulations during the established COVID-19 pandemic. In addition, a self-reported instrument has been used to measure the disaster core competencies of nurses, and thus, the results are limited to individual self-reports.

2.7. Data analysis

The statistical analyses were performed using the IBM SPSS (Statistical Package for the Social Sciences, Chicago, IL, USA) version 22.0 program. Descriptive statistics, mean, standard deviation, minimum-maximum values for continuous data, and numbers and percentages for categorical data were reported. Conformity of the continuous data to the normal distribution was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. As the data had no parametric properties, the Mann-Whitney U test and the Kruskal-Wallis test were used as non-parametric tests for the analyses. Post-hoc analyses were performed to determine which group caused the significance. Cronbach's alpha coefficients were calculated for the internal consistency of the scale. For statistical significance, p-values below 0.05 with a confidence interval of 95% were considered significant.

3. Results

The majority of Generation Y nurses who participated in the study were female (69.0%), single (59.6%) and had a university degree (59.8%). The majority of participants were working in various public hospitals (58.8%). The mean length of work experience of nurses working in internal medicine clinics (19.1%), emergency departments (17.1%), surgical clinics (11.2%), and intensive care units (15.9%) was 9.39±7.43 years (min-max= 1-40). The demographic characteristics of Generation Y nurses participating in the study are shown in Table 1.

Table 1. Descriptive statistics on demographic characteristics of generation Y nurses (n=403)

Personal and Professional Characteristics		n	%
Gender	Male	125	31.0
	Female	278	69.0
Marital Status	Single	240	59.6
	Married	163	40.4
Educational Level	MVHS*	40	9.9

*Corresponding author: handanalan@yahoo.com
DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

	Associate Degree	65	16.1
	Undergraduate	241	59.8
	Postgraduate	57	14.2

Table 1. Descriptive statistics on demographic characteristics of generation Y nurses (n=403) (Continued)

Hospital Type	Public Hospital	237	58.8
	Private Hospital	92	22.8
	University Hospital	74	18.4
Unit	Surgical Sciences	45	11.2
	Emergency Unit	69	17.1
	Intensive Care Unit	64	15.9
	Internal Sciences	77	19.1
	Others	148	36.7
Professional Experience (min-max= 1-40, Mean (SD)=9.39 (±7.43)	≤10 years	237	59.2
	≥11 years	166	40.8

3.1. NPDCC Scores of Generation Y nurses

The NPDCC score of Generation Y nurses was 151.18±30.11, which is above the moderate value. Only in the SDS subscale they achieved an average score that was below the moderate value (Table 1). Generation Y nurses rated their disaster preparedness highest for “infectious diseases and outbreaks” (6.04±3.04). This was followed by “earthquakes and floods” (5.70±2.15), “large fires” (5.22±2.06), “radioactive material leakage or pollution” (3.42±2.28), and “nuclear accidents” (3.21±2.26) preparedness, respectively (Table 2).

Table 2. NPDCC and subscale scores and nurses' self-assessment of disaster preparedness (N=403)

	Possible	Range	M±SD
Total NPDCC Score (45 items)	45-225	54-225	151.18±30.11
CTS *(4 items)*	4-20	4-20	12.44±3.53
SDS *(6 items)*	6-30	6-30	17.68±4.70
GDS *(13 items)*	13-65	16-65	43.96±9.84
TS *(14 items)*	14-70	16-70	51.35±10.78
CS *(8 items)*	8-40	8-40	25.74±5.98
Self-confidence			
Infectious diseases and outbreaks	0-10	5-10	6.04±3.04
Earthquakes and floods	0-10	3-8	5.70±2.15
Large fires	0-10	3-7	5.22±2.06
Radioactive material leaking or pollution	0-10	0-5	3.42±2.28
Nuclear incidents	0-10	0-5	3.21±2.26

NPDCC=Nurses’ Perceptions of Disaster Core Competencies Scale; CTS= Critical Thinking Skills; SDS= Special Diagnostic Skills, GDS= General Diagnostic Skills; TS= Technical Skills; CS= Communication Skills
M= Mean, SD= Standard Deviation

3.2. Comparison of Generation Y nurses' NPDCC measurements according to their personal and professional characteristics and disaster experience characteristics

*Corresponding author: handanalan@yahoo.com
DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

It was determined that the marital status, position, and unit variables did not cause a statistically significant difference in the overall NPDCC score and its subscales in the comparisons performed according to the personal and professional characteristics of the nurses (p>.05). However, educational level and the institution they working in constituted a statistically significant difference in the overall NPDCC, while postgraduates and nurses working at the university hospital obtained higher scores (p<.01; Table 2). When the comparisons of the subscales were examined, gender, education level, the institution they work in, and duration of professional experience constituted statistically significant differences in multiple subscales. Nurses who were male, postgraduate graduates and working in a university hospital also scored higher (p<.05; p<.01, p<.001; Table 3).

In the study, the majority of Generation Y nurses reported that they had been exposed to a disaster other than the COVID-19 pandemic (52.1%); however, they had not provided care in a disaster other than the COVID-19 pandemic (70.0%) and had not lost a relative/acquaintance in any disaster (80.4%). It was found that they had received training on disasters (71.2%), which was composed of theory and practice (55.4%). 56.1% of Generation Y nurses stated that the institutions they working in had a disaster plan, which they had read, while most of them stated that they had participated in a disaster drill at least once (70.0%) (Table 3).

Table 3. Comparison of the personal and professional characteristics and disaster experiences of generation Y nurses and NPDCC and subscale score averages (n=403)

			NPDCC	**CTS**	**SDS**	**GDS**	**TS**	**CS**
		n	M ±SD	M ±SD	M ±SD	M ±SD	M ±SD	M ±SD
Gender	Male	125	153.78±31.40	13.01±3.25	18.57±4.34	43.69±9.74	52.06±11.91	26.46±5.97
	Female	278	150.00±29.50	12.19±3.62	17.28±4.81	44.08±9.90	51.03±10.24	25.42±5.96
	Test Significance		p=0.156	**p=0.009****	**p=0.027*****	p=0.787	p=0.201	p=0.094
Marital Status	Single	240	150.65±30.92	12.19±3.53	17.63±4.76	44.25±10.24	50.94±10.97	25.64±6.03
	Married	163	151.95±28.97	12.82±3.50	17.76±4.64	43.53±9.24	51.94±10.50	25.90±5.91
	Test Significance		p=0.706	p=0.247	p=0.405	p=0.496	p=0.368	p=0.322
Educational Level	MVHS[a]	40	149.28±38.55	11.28±3.75	16.58±5.81	43.33±13.37	52.50±13.12	25.60±7.19
	Associate Degree[b]	65	132.11±22.30	11.34±2.51	16.11±4.00	38.65±7.36	43.51±7.11	22.51±4.87
	Undergraduate [c]	241	151.05±26.65	12.37±3.37	17.40±4.26	43.86±8.73	51.89±10.29	25.53±5.37
	Postgraduate degree[d]	57	174.79±29.51	14.82±3.95	21.44±4.54	50.88±10.03	57.19±9.70	30.46±5.90
	Test Significance		**p<0.001* d>a.b.c**	**p<0.001* d>a.b.c**	**p<0.001* d>a.b.c**	**p<0.001* d>a.b.c**	**p<0.001* d>a.b.c**	**p<0.001* d>a.b.c**
Hospital Type	Public Hospital[a]	237	150.38±28.46	12.50±3.38	17.64±4.41	43.65±9.24	51.10±10.92	25.49±5.67
	Private Hospital[b]	92	144.93±30.00	11.74±3.49	17.16±4.91	42.33±10.05	48.65±9.65	25.05±6.20
	University Hospital[c]	74	161.49±33.08	13.14±3.93	18.46±5.29	46.97±10.88	55.49±10.55	27.43±6.43
	Test Significance		**p<0.001* c>a.b**	p=0.060	p=0.321	p=**0.006** c>a.b**	**p<0.001* c>a.b**	p=**0.017*** c>a.b**
Unit	Surgical Sciences	45	152.98±34.07	12.47±3.53	17.69±5.20	44.33±11.82	52.64±11.33	25.84±7.03
	Emergency Unit	69	150.57±23.08	12.78±2.80	17.80±3.30	43.35±7.37	51.16±9.52	25.48±4.30
	Intensive Care Unit	64	152.38±30.12	12.56±3.78	17.16±4.41	44.67±9.32	52.72±10.94	25.27±6.26
	Internal Sciences	77	154.92±26.90	11.99±3.21	17.90±4.08	45.65±9.50	52.95±10.02	26.44±5.31
	Others	148	148.45±33.27	12.47±3.88	17.74±5.50	42.94±10.54	49.61±11.34	25.68±6.53
	Test Significance		p=0.391	p=0.682	p=0.899	p=0.270	p=0.134	p=0.677

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DOI: 10.56061/fbujohs.1395036

ORIGINAL ARTICLE

Professional Experience	≤10 years	237	149.42±31.09	12.13±3.59	17.28±4.82	43.45±10.37	51.09±11.23	25.48±6.13
	≥11 years	166	154.37±27.91	13.00±3.31	18.41±4.32	44.88±8.80	51.70±10.14	26.38±5.42
	Test Significance		p=0.165	p=**0.014*****	p=**0.024*****	p=0.085	p=0.562	p=0.147

Table 3. Comparison of the personal and professional characteristics and disaster experiences of generation Y nurses and NPDCC and subscale score averages (n=403) (Continued)

			NPDCC	**CTS**	**SDS**	**GDS**	**TS**	**CS**
		n	M ±SD	M ±SD	M ±SD	M ±SD	M ±SD	M ±SD
Being exposure to a disaster other than Covid-19	Yes	210	154.44±30.05	13.08±3.22	18.23±4.46	44.60±9.96	52.23±10.91	26.30±5.75
	No	193	147.62±29.86	11.75±3.72	17.08±4.89	43.25±9.68	50.39±10.58	25.15±6.18
	Test Significance		**p=0.035*****	**p<0.001***	**p=0.026**	p=0.204	p=0.076	p=0.097
Taking part in a disaster other than	Yes	121	154.01±31.89	13.51±3.41	18.76±4.85	44.59±9.73	50.51±10.83	26.64±5.86
	No	282	149.96±29.30	11.99±3.49	17.22±4.57	43.69±9.89	51.71±10.76	25.36±6.00
	Test Significance		p=0.293	**p<0.001***	**p=0.012*****	p=0.229	p=0.478	p=0.051
Losing a relative/ acquaintance in any disaster	Yes	79	161.56±30.75	13.75±3.50	19.23±5.07	46.71±9.74	53.92±10.76	27.95±5.96
	No	324	148.65±29.45	12.13±3.47	17.31±4.54	43.29±9.76	50.72±10.71	25.21±5.87
	Test Significance		**p=0.002****	**p<0.01****	**p=0.008****	**p=0.007****	**p=0.027*****	**p<0.001***
Having disaster training in the last year	Yes	287	154.14±28.96	12.79±3.29	18.28±4.29	45.14±9.36	51.74±10.53	154.14±28.96
	No	116	143.84±31.75	11.59±3.95	16.20±5.34	41.04±10.43	50.39±11.35	143.84±31.75
	Test Significance		**p=0.002****	**p=0.002****	**p<0.001***	**p<0.001***	p=0.196	**p=0.002****
Participating in disaster drills	Yes	282	153.74±29.81	12.81±3.52	18.21±4.69	44.83±9.55	51.67±10.59	153.74±29.81
	No	121	145.21±30.10	11.59±3.40	16.46±4.52	41.92±10.24	50.59±11.22	145.21±30.10
	Test Significance		**p=0.008****	**p=0.002****	**p<0.001***	**p=0.002****	p=0.305	**p=0.008****

1Only statistically significant variables are included in the table.
NPDCC=Nurses' Perceptions of Disaster Core Competencies Scale; CTS=Critical Thinking Skills; SDS=Special Diagnostic Skills; GDS=General Diagnostic Skills; TS=Technical Skills;
CS= Communication Skills; M=Mean, SD=Standard Deviation, U=Man Whitney U Test, KW=Kruskal Wallis Testi, MVHS=Medical Vocational High School; n=Sayı; M=Mean, SD=Standard Deviation
p<0.001, p<0.01** , p<0.05*

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DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

Table 4: The correlation between Generation Y nurses' self-assessment scores of disaster preparedness and the NPDCC and its subscales (n=403)

Self-confidence level in individual or		CTS	SDS	GDS	TS	CS	NPD
Earthquakes and floods	r	.447**	.316*	.187*	.389*	.325*	.371*
Large fires	r	.460**	.347*	.282*	.361*	.340*	.403*
Infectious diseases and outbreaks	r	.333**	.306*	.330*	.477*	.344*	.449*
Radioactive material leakage and pollution	r	.297**	.276*	.166*	.256*	.228*	.279*
Nuclear incidents	r	.322**	.286*	.125*	.194*	.182*	.234*

*Note= Spearman Correlation Coefficients were given in the table. p<0.001**. p<0.01**
NPDCC=Nurses' Perceptions of Disaster Core Competencies Scale; CTS=Critical Thinking Skills; SDS=Special Diagnostic Skills; GDS=General Diagnostic Skills; TS=Technical Skills; CS=Communication Skills

4. Discussion

In recent years, disasters have become a global health care problem. Therefore, disaster preparedness and response is now considered as a part of nursing practice (Lam et al., 2018). It is important that nurses working at the frontline of healthcare services are prepared to respond appropriately to disasters and crises (Seyedin et al., 2015). Therefore, it should not be overlooked that the disaster competencies of nurses from different generations with different characteristics may also vary. This study was conducted to determine the core disaster competencies of Generation Y nurses in Turkeyand their personal, professional, and disaster experience-related characteristics.

No generational distinction was made in the literature; however, no significant difference was found between age groups in terms of disaster preparedness (Hamouda et al., 2019; Taskiran & Baykal, 2017; Zeren, 2019). In some studies, a significant difference was found between nurses under the age of 30 and their level of knowledge about disasters and disaster management (Far et al., 2020), and core disaster competencies (Durgut & Yıldız, 2022). In these studies, nurses under the age of 30 may refer to Generation Y. While some studies reported that the level of nurses' knowledge, skills, and preparedness for disasters was generally low (Alzahrani & Kyratsis, 2017; Azadi et al., 2018; Hamouda, 2018; Labrague et al., 2016; Martono et al., 2019; Sangkala & Gerdtz, 2018), some suggested that they had high level of preparedness and knowledge (Basal & Ahmed, 2018; Maleki et al., 2018). The NPDCC score of the Generation Y nurses who participated in this study was higher than the mean score and was higher than other studies conducted using the same scale (Alan et. all, 2022; Taşkiran ve Baykal, 2019). This could be related to the fact that Generation Y nurses have been more involved in patient care during the pandemic, that disaster preparedness activities have been strengthened at the national level in healtcare facilities, that continuing education programs have been improved, and that therefore nurses' core competencies related to disasters have increased. Nurses of this generation are generally unaware of their shortcomings or do not admit to them due to their high self-esteem (Akdemir et al., 2013; Hahn, 2011; Hutchinson et al., 2012; Piper, 2012). Therefore, they may consider themselves competent. Given this situation, it is important to ensure that Generation Y nurses prepare individually and professionally for such situations and adopt disaster preparedness and intervention as part of nursing practices.

*Corresponding author: handanalan@yahoo.com
DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

Nurses should have an adequate level of knowledge and skills to be able to respond appropriately to different types of disasters (Firouzkouhi et al., 2021; Hasan et al., 2021). It draws attention that previous studies have suggested different results regarding the NPDCC subscale scores. In a study, it was stated that nurses obtained low scores in the CTS, SDS, and CS subscales (Labrague et al., 2018), while others mentioned that lower scores were obtained from the CTS and SDS (Taskiran & Baykal, 2019; Zeren, 2019). In a study by Alan et al. (2022), similar to this study, nurses received a score below the moderate level only in the SDS subscale (Alan et al., 2022). In Turkey, since natural disasters such as earthquakes or floods are encountered in general (Disaster and Emergency Management Presidency, 2020), it is an expected result that Generation Y nurses have obtained lower scores in the SDS subscale, which includes the general knowledge-related competencies in human-induced disasters (chemical, biological, nuclear and radiological, etc.). In addition, the fact that they have obtained higher scores in general diagnostic skills and technical skills in this study compared to other subscales can be associated with the fact that they have actively used their nursing skills more often during the pandemic period.

In the literature, nurses rated their level of disaster preparedness as moderate (Rizqillah & Suna, 2018; Sangkala & Gerdtz, 2018; Taşkıran & Baykal, 2017) or below the moderate (Chegini et al., 2022; Jeong & Lee, 2020; Labrague et al., 2018; Park & Kim, 2017). In a study conducted in the Philippines, 80% of the nurses who participated in the study also rated themselves as inadequate for disasters (Labrague et al., 2016). In this study, Generation Y nurses stated that they rated their skills as moderate or better in relation to disasters such as earthquakes and floods, large fires, and infectious diseases, while they were inadequate in relation to radioactive material leakage and pollution, and nuclear accidents. They also rated their level of preparedness for infectious diseases higher than for other types of disasters. This could be related to the fact that training on infectious diseases has increased and they were actively involved in the process during the pandemic in Turkey and globally.

The result indicating that the educational level of nurses and the type of institution make a significant difference in the overall NPDCC score is an important yet expected finding. It can also be considered normal for experienced nurses who work longer in the profession to rate their level of disaster preparedness higher in the CTS and SDS subscales. Depending on the experiences of Generation Y nurses, it can be assumed that they exhibit leadership characteristics in crises, and thus, feel more competent. Like the results of this study, it is reported in the literature that nurses' professional experiences make a significant difference on certain NPDCC subscales (Rizqillah & Suna, 2018; Taskiran & Baykal, 2019; Tzeng et al., 2016;).

Although it was determined that Generation Y nurses had not taken part in a disaster other than the COVID-19 pandemic, it was found that they were also confident in terms of earthquakes, floods and, large fires. It can be considered that this situation is mostly related to having been exposed to a disaster, receiving disaster training, and participating in a disaster drill. Overall NPDCC and subscale scores of nurses exposed to disasters, receiving training, or participating in drills were found to be significantly higher than others, which was consistent with the literature (Taskiran & Baykal, 2019; Tzeng et al., 2016; Usher et al., 2015). In addition, in previous studies, like the current study, it was reported that there was

*Corresponding author: handanalan@yahoo.com
DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

a significant correlation between the experience of providing care during a disaster and the disaster preparedness of nurses (Labrague et al, 2018; Rizqillah & Suna, 2018; Tzeng et al., 2016). By this result, it may be suggested that Generation Y nurses rate their preparedness levels higher when they provide health services to disaster victims because of a situation aimed at providing skills such as training/exercises or a real disaster. It may be associated with the fact that they learn the processes related to disaster response and experience how to act during a disaster.

In the literature, there was no distinction based on the generations; however, no significant difference was also found among the age groups in terms of disaster preparedness (Hamouda et al., 2019; Taskiran & Baykal, 2017; Zeren, 2019). In some studies, there was a significant difference between the nurses aged below 30 and their level of knowledge on disaster and disaster management (Far et al., 2020), and disaster core competency scores (Durgut & Yıldız, 2022). In these studies, nurses under the age of 30 refer to Generation Y. Nurses in this generation are generally not aware of or do not admit their deficiencies due to their high self-esteem (Akdemir et al., 2013; Hahn, 2011; Hutchinson et al., 2012; Piper, 2012). Therefore, they may consider themselves competent. Given this situation, it is important to ensure that Generation Y nurses prepare individually and professionally for such situation, and to adopt disaster preparedness and intervention considered a part of nursing practices.

5. Conclusion

As a result of this descriptive cross-sectional research conducted with Generation Y nurses, it was found that their NPDCC scores were above the moderate level. They individually assessed their preparedness for earthquakes and floods, large fires, and infectious diseases at a high level, and their preparedness for radioactive material leakage and nuclear accidents at a low level. When NPDCC scores of Generation Y nurses were examined according to their personal and professional characteristics, it was found that postgraduates and more experienced nurses had higher scores. When the subscale scores were compared, it was seen that there were significant differences in terms of gender, educational level, institution type, and professional experience. When the disaster experience characteristics were examined, it was determined that all characteristics made a significant difference in NPDCC scores. There was a correlation between the nurses who were individually or professionally confident in terms of preparedness for different disasters and NPDCC scores.

Since there is no precise way to predict when and where a major disaster will occur, it is essential to maintain a constant state of preparedness to be able to respond quickly and effectively in the event of a disaster. Therefore, disaster preparedness education and training are critical to ensure that nurses have the necessary knowledge and skills. It is advocated that effective education and training are required to be prepared to deliver disaster care and to maintain a confident nursing workforce. When developing the content of disaster nursing education programs, educators should also consider generational differences.

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DOI: 10.56061/fbujohs.1395036
ORIGINAL ARTICLE

Authors Contributions

Topic selection: YŞ, HA; Design: YŞ, HA; Planning: YŞ, HA; Data collection and analysis: YŞ,HA; Article writing: YŞ; Critical review: HA.

Conflict of Interest

No conflict of interest has been declared by the authors.

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