

RESEARCH ARTICLE

EXAMINING THE SOURCES OF HOSPITAL-ORIENTED ANXIETY EXPERIENCED BY HEALTHCARE PROFESSIONALS IN THE COVID-19 PANDEMIC

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Abstract

Purpose: This study was conducted to examine the sources of the changes and the hospital oriented anxiety experienced by healthcare professionals in the Covid-19 pandemic. **Design and Methods:** The study sample consisted of 604 healthcare workers. Data were collected using a questionnaire developed by the researcher and analysed by using descriptive statistics, t-test, and analysis of variance, Kruskal-Wallis, and Turkey test on the SPSS 23.0 software package. **Findings:** The healthcare professionals in the study were concerned that they could infect their family members with the virus (72%) and that their relatives would be harmed due to the pandemic (63.2%). Nurses experienced the least anxiety. Women experienced more anxiety than men. Despite experiencing anxiety, 58.5% did not consider resigning due to the COVID-19 pandemic. **Practice Implications:** The mental health of healthcare professionals, who serve at the forefront during the Covid-19 pandemic, should be evaluated in the long term. Early intervention to indirect traumatization can make it easier to control the anxiety caused by the Covid-19 pandemic. Revealing anxiety-related topics will facilitate handling the right issues and coping with them. *ASEAN Journal of Psychiatry, Vol. 22(9) November, 2021; 1-12.*

Keywords: COVID-19, Nursing, Health Care Professionals, Anxiety, Pandemic, Nursing Care

What is already about known this topic?

As the pandemic affected the world and the capacity of underfunded health and social care systems was locked down. The health systems of the countries started to collapse. The group most affected by this collapse are healthcare workers and their front line heroes, the nurses.

All healthcare professionals and especially nurses have been heroic in their efforts to provide care and save lives. Many of them still continue to work long shifts without ever taking a day off. The number of healthcare workers getting infected is increasing day by day due to the lack of appropriate personal protective equipment and tragically, many healthcare workers die for the sake of their profession.

What this study adds?

While nurses respond to this terrible and unprecedented health crisis, it is emphasized that one-to-one contact with the patient is mostly experienced by nurses among healthcare professionals, and accordingly, nurses are the occupational group with the highest anxiety level.

Although they are actively involved in this fight against COVID-19 among healthcare professionals, many nurses, like everyone else, fear the unknown and are seriously concerned about what will happen next for

If the anxiety of nurses and healthcare workers is not resolved, the rate of healing increases as it is now and this situation will become

unavoidable during the pandemic process in the future. For this reason, there is an urgent need to relieve the anxiety of healthcare professionals and even to develop appropriate prevention, treatment and rehabilitation strategies.

Introduction

With the emergence of a new virus from the Corona family, which first appeared in Wuhan, China in December 2019 and spread rapidly all over the world, a global pandemic was declared, and it has threatened the life of all humanity since then [1,2]. The mortality rate of Covid-19 is 2.3% higher than influenza, and, unlike Severe Acute Respiratory Syndrome (SARS), it is more contagious [3]. Although COVID-19 has similarities with other coronaviruses, it can spread rapidly and through droplets, especially seriously affecting individuals aged 65 and over with chronic diseases. The new virus has increased the need for intensive care more and thus threatens the health system [4]. Especially healthcare workers have the highest workload worldwide during the pandemic [5,6]. In addition to the high risk of contamination, many factors, such as economic problems, physical and psychological fatigue, the burden of equipment and clothes and related biological problems, inadequate sleep, and malnutrition cause anxiety [1,7-9]. Healthcare workers have begun to lose their social, physical, and psychological health in this process [10,11]. The physical and psychological well-being of health workers, as well as the measures taken by governments and the public, are vital to managing and surviving the pandemic with minimal damage [12,13]. In this study, the anxiety experienced by healthcare workers during the COVID-19 pandemic was investigated, and the case of Turkey was discussed.

Methods

Design and sample

This descriptive study was conducted in accordance with the principles of the declaration of Helsinki to examine the anxiety focus of healthcare professionals working in a university

hospital operating as a pandemic healthcare centre. The study population consisted of 670 healthcare professionals working at the university hospital where the research was conducted during the Covid-19 pandemic. The study sample included 604 healthcare workers who volunteered to participate in the study and worked actively between March 16 and November 9, 2020. The data of the study were collected using an online questionnaire that could be accessed *via* smartphones or computers so that face-to-face interaction could be reduced due to the current isolation policy.

Ethical considerations

The guidelines of the Declaration of Helsinki were followed. The study was approved by the Ethics Committee of Alanya Alaaddin Keykubat University faculty of medicine (Approval No: 10354421).

All participants were informed about the study and the voluntary basis of participation. All collected data is kept confidential

Knowledge

The data were collected by using a "Personal Information Form" developed by the researchers of the study in the light of the literature.

Personnel information form

This form consists of items about socio-demographic (age, gender, education level, etc.), occupational (total work experience, type of work, position, etc.) and anxiety characteristics of the participants.

Data analysis

The study data were analysed on the IBM SPSS Statistics 23.0 software package. The variables were tested for normality with the Shapiro-Wilk test, Q-Q graphs, and histograms.

Descriptive statistical methods (minimum, maximum, mean, standard deviation, median, quartiles) were used to evaluate the data, and the Mann-Whitney U test was employed for the

evaluation of quantitative data that did not show normal distribution between two groups.

The Kruskal-Wallis test was used to evaluate the quantitative data between more than two groups, and the Bonferroni-corrected Mann-Whitney U test was used to determine the group that caused the difference.

The significance level was accepted as $p < 0.05$.

Results

The study was conducted with a total of 604 healthcare personnel working in Covid-19 pandemic units, including 82.1% (n=495) females and 17.9% (n=108) males. The distribution of socio-demographic characteristics of the healthcare workers is given in Table 1.

Table 1. Socio-demographic characteristics of the healthcare professionals (n=604).

Socio-demographic characteristics		n	%
Gender	Female	497	82.3
	Male	107	17.7
Age groups	≤ 29 years	148	24.5
	30-36 years	156	25.8
	37-43 years	167	27.6
	44-50 years	106	17.5
	≥ 51 years	27	4.5
Marital status	Married	409	67.7
	Single	195	32.3
Educational status	High school	49	8.1
	Associate degree	88	14.6
	Undergraduate degree	334	55.3
	Master's degree	91	15.1
	Doctorate	42	7
Number of children	No	221	36.6
	≤ 2 children	341	56.5
	≥ 3 children	42	7
Occupation	Nurse	352	58.3
	Midwife	108	17.9
	Physician	91	15.1
	Health technician	27	4.5
	Emergency medical technician	26	4.3
Total work experience	≤ 3 years	69	11.4
	4-6 years	75	12.4
	7-9 years	97	16.1
	10-12 years	105	17.4
	≥ 13 years	258	42.7
Departments	Gynecology and obstetrics	101	16.8
	General surgery	93	15.3

	Internal medicine	63	10.4
	Administrative units	21	3.5
	Pediatrics	25	4.1
	Intensive care unit	112	18.6
	Emergency department	87	14.4
	Family health center	102	16.9
Working at managerial level	Yes	70	11.6
	No	534	88.4
Working at the forefront at the site in one of the departments serving the COVID-19 patients	Yes	324	53.6
	No	280	46.4

It was found that 82.1% (n=495) of the healthcare workers were female, 27.7% (n=167) were between the ages of 37-43, 67.7% (n=408) were married, 55.2% (n=333) had an undergraduate degree, 56.4% (n=340) had 2 or fewer children, 58.2% (n=351) were nurses, 43% (n=259) had been working for 16 years or more, 18.6% (n=112) worked in the intensive

care unit, 53.7% (n=324) worked in the managerial position, and that 11.4% (n=68) worked at the forefront in one of the Covid-19 units.

The distribution of anxiety about the Covid-19 pandemic experienced by health care professionals is given in Table 2.

Table 2. Distribution of anxiety about the COVID-19 pandemic experienced by health care professionals.

Anxiety about the COVID-19 pandemic	Never	Sometimes	Occasionally	Usually	Always	Mean (\bar{X}) \pm SD
	n (%)	n (%)	n (%)	n (%)	n (%)	
Feeling anxious while coming to work	18 (3%)	64 (10.6%)	61 (10.1%)	196 (32.5%)	265 (43.9%)	4.04 \pm 1.11
Fear of death due to the COVID-19 pandemic	77 (12.7%)	142 (23.5%)	154 (25.5%)	143 (23.5%)	88 (14.6%)	3.04 \pm 1.25
Sleep disorder at home due to the COVID-19 pandemic	91 (15.1%)	139 (23%)	106 (17.5%)	167 (27.6%)	101 (16.7%)	3.08 \pm 1.33
Feeling nervous at the workplace due to the COVID-19 pandemic	49 (8.1%)	150 (24.8%)	145 (24%)	176 (29.1%)	84 (13.9%)	3.16 \pm 1.18
Using protective equipment that causes difficulties and increased fear in patient care	39 (6.5%)	89 (14.7%)	102 (16.9%)	232 (38.4%)	141 (23.5%)	3.58 \pm 1.18

Increased anxiety due to non-compliance with infection control protocols in the clinic	49 (8.1%)	115 (19%)	105 (17.4%)	177 (29.3%)	158 (26.2%)	3.46 ± 1.28
Feeling nervous while working with a patient suspected of/diagnosed with COVID-19	23 (3.8%)	57 (9.4%)	51 (8.4%)	204 (33.8%)	269 (44.5%)	4.06 ± 1.12
The urge to stay away from the people around and escape them due to the COVID-19 pandemic	22 (3.6%)	57 (9.4%)	62 (10.3%)	228 (37.7%)	235 (38.9%)	3.99 ± 1.1
Concerns related to future due to treatment uncertainty of COVID-19	21 (3.5%)	51 (8.4%)	80 (13.2%)	230 (38.1%)	222 (36.8%)	3.96 ± 1.07
Being afraid of infecting family members or relatives with COVID-19	5 (0.8%)	16 (2.6%)	23 (3.8%)	126 (20.9%)	434 (71.9%)	4.60 ± 0.76
Feeling unsafe because the precautions taken in the work environment are considered insufficient	25 (4.1%)	86 (14.2%)	103 (17.1%)	191 (31.6%)	199 (32.9%)	3.75 ± 1.18
Panicking about contacting the COVID-19 virus in every incoming patient	32 (5.3%)	89 (14.7%)	95 (15.7%)	195 (32.3%)	193 (32%)	3.71 ± 1.21
Fearing that relatives will suffer from the COVID-19 pandemic	4 (0.7%)	24 (4%)	36 (6%)	159 (26.3%)	381 (63.1%)	4.47 ± 0.83
Fearing that they will never see their relatives due to the COVID-19 pandemic	20 (3.3%)	67 (11.1%)	87 (14.4%)	164 (27.2%)	266 (44%)	3.98 ± 1.15
Having trouble concentrating on work due to the COVID-19 pandemic	73 (11.9%)	122 (20.2%)	140 (23.2%)	164 (27.2%)	106 (17.5%)	3.18 ± 1.28
Reluctance to work with patients with COVID-19	91 (15.1%)	119 (19.7%)	82 (13.6%)	134 (22.2%)	178 (29.5%)	3.31 ± 1.45
Being obsessive in the work environment due to the COVID-19 pandemic	29 (4.8%)	71 (11.8%)	73 (12.1%)	221 (36.6%)	210 (34.8%)	3.85 ± 1.16
Thinking of resigning due to the COVID-19 pandemic	352 (58.3%)	105 (17.4%)	68 (11.3%)	47 (7.8%)	32 (5.3%)	1.84 ± 1.21

Feeling distant from people in the work environment and feeling estranged from them due to the COVID-19 pandemic	57 (9.4%)	153 (25.3%)	126 (20.9%)	172 (28.5%)	96 (15.9%)	3.16 ± 1.24
Believing that the pandemic will be cured and everything will recover	34 (5.6%)	113 (18.7%)	147 (24.3%)	204 (33.8%)	106 (17.5%)	3.39 ± 1.14

As seen in the table, 43.9% of the healthcare professionals felt anxious at work, 25.5% had fear of death, 27.6% had sleep disorders, 29.1% felt nervous at the workplace, 38.4% had fears due to the insufficient equipment used in patient care, 29.3% experienced increased anxiety about non-compliance with infection control protocols in the clinic, 44.5% felt nervous while working with a patient suspected of/diagnosed with Covid-19, 38.9% felt an urge to stay away from the people around, 38.1% were concerned about the treatment uncertainty, 71.9% were afraid of infecting their family or relatives, 32.9% thought measures against Covid-19 were insufficient, 32.3% were afraid of contacting the Covid-19 virus in every incoming patient,

63.1% feared that their relatives would suffer from Covid-19 pandemic, 44% feared that they would never see their relatives again due to the Covid-19 pandemic, 27.2% had trouble concentrating on work, 29.5% were reluctant to work with patients, 36.6% were obsessed about the workplace, 58.3% never thought of resigning, 28.5% usually felt distant from people in the workplace and felt estranged from them due to the Covid-19 pandemic, and 33.8% believed that the Covid-19 pandemic would be cured and everything would recover.

The assessment of the Covid-19 pandemic anxiety experienced by healthcare professionals by gender is given in Table 3.

Table 3. The assessment of anxiety about the COVID-19 pandemic experienced by healthcare professionals according to gender.

Assessment of anxiety about the COVID-19 pandemic	Gender		Z	P
	Female (n=497)	Male (n=107)		
	Mean Rank	Mean Rank		
	(Sum of Ranks)	(Sum of Ranks)		
Feeling anxious while coming to work	262.07 (28566.00)	312.59 (155355.00)	-2.873	0.004**
Fear of death due to the COVID-19 pandemic	254.26 (27714.50)	314.30 (156206.50)	-3.442	0.001**
Sleep disorder at home due to the COVID-19 pandemic	244.11 (26607.50)	316.53 (157313.50)	-3.933	0.000**
Feeling nervous at the workplace due to the COVID-19 pandemic	272.18 (29667.50)	310.37 (154253.50)	-2.164	0.034*
Using protective equipment that causes difficulties and increased fear in patient care	296.58 (32327.00)	305.02 (151594.00)	-0.487	0.635
Increased anxiety due to non-compliance with infection control protocols in the clinic	282.74 (30819.00)	308.05 (153102.00)	-1.313	0.16
Feeling nervous while working with a patient suspected of/diagnosed with	280.22 (30543.50)	308.61 (153377.50)	-1.622	0.1

COVID-19				
The urge to stay away from the people around and escape them due to the COVID-19 pandemic	273.60 (29822.00)	310.06 (154099.00)	-1.982	0.036*
Concerns related to future due to treatment uncertainty of COVID-19	262.76 (28640.50)	312.44 (155280.50)	-2.934	0.005**
Being afraid of infecting family members or relatives with COVID-19	293.86 (32031.00)	305.61 (151890.00)	-0.645	0.421
Feeling unsafe because the precautions taken in the work environment are considered insufficient	285.00 (31065.00)	307.56 (152856.00)	-1.12	0.205
Panicking about contacting the COVID-19 virus in every incoming patient	259.29 (28262.50)	313.20 (155658.50)	-2.902	0.002**
Fearing that relatives will suffer from the COVID-19 pandemic	272.06 (29654.50)	310.40 (154266.50)	-2.376	0.016*
Fearing that they will never see their relatives due to the COVID-19 pandemic	242.09 (26388.00)	316.97 (157533.00)	-4.289	0.000**
Having trouble concentrating on work due to the COVID-19 pandemic	285.78 (31150.00)	307.39 (152771.00)	-1.089	0.232
Reluctance to work with patients with COVID-19	302.53 (32975.50)	303.71 (150945.50)	-0.056	0.948
Being obsessive in the work environment due to the COVID-19 pandemic	247.33 (26959.00)	315.82 (156962.00)	-3.868	0.000**
Thinking of resigning due to the COVID-19 pandemic	289.27 (31530.50)	306.62 (152390.50)	-0.959	0.293
Feeling distant from people in the work environment and feeling estranged from them due to the COVID-19	301.59 (32873.50)	303.92 (151047.50)	-0.252	0.897
Believing that the pandemic will be cured and everything will recover	305.40 (33289.00)	303.08 (150632.00)	-0.227	0.897

Z: Mann-Whitney U Test, *: $p < 0.05$ **: $p < 0.01$

The comparison of the genders yielded significant results in terms of females as shown by the following evaluations: Fear of death ($Z = -3.442$; $p < 0.01$), sleep disturbance ($Z = -3.933$; $p < 0.01$), feeling nervous while coming to work ($Z = -2.164$; $p < 0.05$), being away from people and feeling an urge to run away ($Z = -1.982$; $p < 0.05$), feeling panic due to the likelihood of contacting the virus ($Z = -2.902$; $p < 0.01$), fearing

that their relatives would be harmed ($Z = -2.376$; $p < 0.05$), and fearing that they would never be able to see their relatives again due to the pandemic ($Z = -4.289$; $p < 0.01$).

The assessment of the anxiety about the Covid-19 pandemic experienced by healthcare professionals in terms of working at the forefront at the site in one of the departments serving Covid-19 patients is given in Table 4.

Table 4. Assessment of anxiety about the COVID-19 pandemic experienced by healthcare professionals according to serving at the forefront at the site in one of the departments created for COVID-19 pandemic.

Assessment of anxiety about the COVID-19 pandemic	Working at the forefront at the site in one of the departments serving COVID-19 patients		Z	P
	No (n=280)	Yes (n=324)		
	Mean Rank (Sum of Ranks)	Mean Rank (Sum of Ranks)		
Feeling anxious while coming to work	288.39(80748.50)	314.70(101961.50)	-1.971	0.049*

Fear of death due to the COVID-19 pandemic	286.13(80117.00)	316.65(102593.00)	-2.196	0.028*
Sleep disorder at home due to the COVID-19 pandemic	280.38(78507.50)	321.61(104202.50)	-2.966	0.003**
Feeling nervous at the workplace due to the COVID-19	281.95(78947.00)	320.26(103763.00)	-2.77	0.006**
Using protective equipment that causes difficulties and	257.54(72110.00)	341.36(110600.00)	-6.131	0.000**
Increased anxiety due to non-compliance with infection 275.89(77250.00)	275.89(77250.00)	325.49(105460.00)	-3.585	0.000**
Feeling nervous while working with a patient suspected	303.16(84884.00)	301.93(97826.00)	-0.092	0.927
The urge to stay away from the people around and escape	285.91(80054.00)	316.84(102656.00)	-2.309	0.021*
Concerns related to future due to treatment uncertainty of	290.08(81222.50)	313.23(101487.50)	-1.721	0.085
Being afraid of infecting family members or relatives with	294.70(82517.00)	309.24(100193.00)	-1.296	0.195
Feeling unsafe because the precautions taken in the work	292.19(81814.00)	311.41(100896.00)	-1.403	0.161
Panicking about contacting the COVID-19 virus in every	290.37(81304.50)	312.98(101405.50)	-1.649	0.099
Fearing that relatives will suffer from the COVID-19	297.68(83349.50)	306.67(99360.50)	-0.739	0.46
Fearing that they will never see their relatives due to the	302.91(84814.50)	302.15(97895.50)	-0.057	0.955
Having trouble concentrating on work due to the COVID-	296.26(82953.00)	307.89(99757.00)	-0.837	0.403
Reluctance to work with patients with COVID-19	301.80(84503.50)	303.11(98206.50)	-0.094	0.925
Being obsessive in the work environment due to the COVID-19 pandemic	295.72(82802.00)	308.36(99908.00)	-0.933	0.351
Thinking of resigning due to the COVID-19 pandemic	290.72(81402.50)	312.68(101307.50)	-1.73	0.084
Feeling distant from people in the work environment and feeling estranged from them due to the COVID-19 pandemic	304.46(85249.00)	300.81(97461.00)	-0.264	0.792
Believing that the pandemic will be cured and everything	307.58(86122.00)	298.11(96588.00)	-0.688	0.492

Z: Mann-Whitney U Test , *: $p < 0.05$, **: $p < 0.01$

The study findings indicated that the lack of protective equipment in patient care led to high levels of fear in all occupational groups ($\chi^2=21.929$; $p < 0.01$). However, nurses were found to be the group that experienced the least fear due to lack of equipment in patient care ($Z=-6.131$; $p < 0.01$). According to the results obtained from the study, fear of death ($Z=-2.196$; $p < 0.05$), sleep disturbance ($Z=-2.966$; $p < 0.01$), and feeling nervous ($Z=-2.770$; $p < 0.01$) were significantly higher in those

working at the forefront in the Covid-19 pandemic than those who did not. Another factor that increased anxiety was the failure to comply with the clinical infection control protocols ($Z=-3.585$, $p < 0.01$).

Discussion

Mental health emergencies, such as anxiety, depression, post-traumatic stress disorder, and sleep disorders, are more likely to affect

healthcare workers, particularly those working at the forefront and in close contact with the public [14]. This study was conducted in a public hospital operating as a pandemic hospital. Thus, healthcare professionals who are at the centre of this challenging period were reached. Some studies indicated that healthcare workers experienced some pandemic-related psychological problems, such as fear of death and sleep disturbance due to adjustment to irregular working schedules and frequent shifts [4,15-17]. This study was conducted to reveal the sources of hospital-oriented anxiety experienced by healthcare professionals working at the forefront, especially in the pandemic process. According to the results, the healthcare workers in the study experienced anxiety about the following issues: anxiety about infecting their families with Covid-19 (71.9%); fear that their family members would be harmed by Covid-19 (63.1%); fear that they would not see their families again (44%); and feeling nervous while coming to work (43.9%). Despite all these, 58.3% of the healthcare workers stated that they did not consider resigning. This decision of the healthcare workers may have been affected by the pandemic policies of our country.

According to studies conducted to investigate the relationship between gender and anxiety levels, women are more affected by the pandemic process [18-20]. Various studies have shown that women have higher anxiety levels [14,21]. In a study conducted in China, where the coronavirus first appeared, it was found that women experienced significantly higher psychological problems than men [22]. According to the results of our study, which supports the literature, women had high levels of anxiety, as well as fear of death, sleep disturbance, feeling nervous while coming to work, an urge to stay away from people, fear of contact with the virus, fear that their families would be harmed by the Covid-19 virus, and fear that they would not see their family again. It can be said that this situation is caused by the fact that more responsibilities are imposed on women in Turkish society. However, Zhu et al. [23] stated that, unlike other studies, the levels

of anxiety were high in males and low in females.

Covid-19 is an infectious disease with a high mortality rate [24]. Therefore, the risk for contracting the disease in the hospital and failure to conduct preventive procedures can cause mood changes in healthcare professionals [25]. Some studies have shown that the mental health of healthcare workers was impacted profoundly by some factors, such as the lack of Personal Protective Equipment (PPE), the physical burden of wearing PPE, fear of getting infected, the conflict between safety procedures and willingness to provide support, long shift hours, pressure, assignment of many responsibilities, and the stigmatization of individuals working in high-risk environments [26-31]. The results of our study showed that, in addition to concerns about their personal safety, healthcare workers working at the forefront were also anxious about irritability, fear of death, difficulty and feeling nervous during giving care, non-compliance with infection control protocols, and spreading the disease to their families. In addition, although the anxiety level was found to be significantly high in all occupational groups, it was determined that the group with the least anxiety level was nurses. Considering the working conditions in Turkey before the pandemic, it can be thought that nurses were able to control their emotional states thanks to the education they received. Although this is the case in the world, it is an undeniable fact that nurses make very serious efforts under all conditions within the existing possibilities under the Turkey conditions.

Limitations

This study was conducted just after the pandemic was declared. Since there was no measurement tool related to the Covid-19 pandemic at that time, the questionnaire created by the researchers was applied. This shows the limitation of our study.

Conclusion

There is an urgent need to relieve the anxiety of healthcare professionals and even to develop

appropriate prevention, treatment, and rehabilitation strategies.

Implications for Nursing Practice

In responding to this terrible and unprecedented health crisis, healthcare professionals are the group with the most one-to-one contact with patients, and it is emphasized that they are the individuals with the highest level of anxiety. Although healthcare professionals are also actively involved in the fight against Covid-19, many of them, like everyone else, fear the unknown and are seriously worried about themselves, their patients, colleagues, families, and friends. If the anxiety of healthcare workers is not resolved, the rate of recovery is increasing as it is now, and this situation will become inevitable during the pandemic process in the future. Therefore, there is an urgent need to address the concerns of healthcare professionals and even to develop appropriate prevention, treatment, and rehabilitation strategies.

Conflict of Interests

The authors declare that there are no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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