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Work stress and obsessive-compulsive symptoms in nurses and office workers: a comparative study

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ABSTRACT

Objectives. This study aims to compare the work stress and obsessive-compulsive symptoms of nurses and office workers and to determine the relationship between work stress and obsessive-compulsive symptoms.

Methods. A total of 127 nurses and 127 office workers participated in the cross-sectional study and comparative study. Data were collected using the perceived work stress scale and the Maudsley obsessive-compulsive inventory.

Results. Nurses had higher work stress scores ($p = 0.003$) in general than office workers. In particular, nurses with a low ($p < 0.039$) and average ($p < 0.007$) economic status, nurses who had been employed for 1–10 years ($p < 0.001$) and nurses working 40 h per week ($p < 0.042$) had higher work stress scores than office workers. There was no difference ($p > 0.05$) between obsessive-compulsive symptom scores. There was a positive significant relationship ($p < 0.001$) between work stress and obsessive-compulsive symptom scores of nurses and office workers. Work stress explains 6.1% of the obsessive-compulsive symptoms in nurses and 12.4% in office workers.

Conclusion. The results of this study concluded that work stress of nurses is higher than that of office workers and work stress affects the obsessive-compulsive symptoms in both groups.

KEYWORDS

work stress; obsessive-compulsive symptoms; nurses; office workers

1. Introduction

Work life is an important component of mental health [1]. Stress, anxiety and depression constitute 20% of work-related health problems in Turkey [2]. In Europe, work-related stress ranks second after musculoskeletal problems in terms of its effect on health [3]. Work stress can be defined as a harmful physical and emotional response that occurs when the requirements of work do not match the employee's abilities and resources or meet their needs [4]. Many situations related to work (the physical structure of the work environment, safety, conflicts due to role ambiguity, excessive workload, communication problems, job insecurity, low wages, responsibilities to the family and work, etc.) cause work stress [4,5]. Physical and mental problems occur when someone is exposed to work stress for a long period of time [4].

In a study examining the burden of disease caused by mental illnesses across 204 countries, the years 1990–2019 were systematically analysed. It was determined that anxiety disorders, including obsessive-compulsive disorders [6], ranked second in terms of prevalence [7]. Obsessive-compulsive disorder, which affects a significant portion of the world population, is one of the common mental disorders associated with stress [8,9]. Obsessions that occur in obsessive-compulsive disorder are characterized by persistent, repetitive, inappropriate, disturbing thoughts that provoke anxiety, while compulsions are characterized by repetitive behaviours that reduce the anxiety caused by the obsessions [10]. These repetitive thoughts and behaviours cause an inability to work, inefficiency in carrying out tasks, a deterioration in social relations and difficulties in maintaining employment; they may also become chronic and cause an increase in losses [11].

Work stress is an important risk factor affecting the mental health of all employees. As is the case for some individuals working outside the healthcare field, the employment conditions of professionals such as nurses, doctors, midwives and the security forces have specific characteristics that may increase work stress. Irregular working hours due to the nature of these professions, the knowledge that one may be called to work at any minute and the need for rapid decision-making in dangerous and life-threatening situations can cause mental problems by increasing work stress [12–14]. The fact that nurses, who constitute the largest group of healthcare professionals, have responsibilities that directly affect other people's lives may lead to the emergence or increase of obsessive-compulsive symptoms related to the anxiety that results from work stress [15]. This situation can adversely affect the health both of nurses and the patients under their care.

In the literature, there are limited studies that investigate the effects of work stress on obsessive-compulsive symptoms. It is thought that this study will contribute to the understanding of obsessive-compulsive symptoms and factors affecting work stress in nurses and office workers, as well as to the identification of the risk for these, especially in nurses. This study aims to compare the work stress and obsessive-compulsive symptoms of nurses and office workers, and to explore the impact of work stress on obsessive-compulsive symptoms.

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2. Materials and methods

2.1. Study design

This descriptive and cross-sectional study was conducted in March and April 2019 with nurses working in different clinics of a university hospital in Turkey and office workers working in areas outside the field of healthcare (secretarial, financial, etc.) at the same university. The nurses and office workers are employees of the same organization. Both groups have common managers and are managed by the same management style. However, the working conditions of office workers are completely different from the working conditions of nurses. Since this difference is thought to show the effect of working in the health field on work stress and obsessive-compulsive symptoms more clearly, office workers were selected as the comparison group. On the assumption that differences in education level may have an effect on the scale scores, only nurses and office workers who had received education at the undergraduate level were included in the study. A total of 794 employees, comprising 200 nurses and 594 office workers, made up the population of the study. In the study, an attempt was made to reach all nurses, but those who were on leave or on report at the time of the study ($n = 30$), those who filled in the forms incompletely or incorrectly ($n = 5$) and those who did not agree to participate ($n = 38$) were excluded from the study; the study was therefore completed with a total of 254 participants, including 127 nurses who volunteered to participate in the study and 127 office workers working outside the healthcare field. The research data were collected through printed questionnaires and face-to-face interviews with the participants at the workplace.

2.2. Data collection tools

A personal information form prepared by the researchers, the perceived work stress scale **(**PSS) and the Maudsley obsessive-compulsive inventory (MOCI) were applied to the participants.

Personal information form

On the questionnaire form prepared by the researchers, 12 questions determined the socio-demographic characteristics and employment conditions of the participants.

Perceived work stress scale

The PSS, which is used to evaluate how participants perceive stress in their working lives, was developed by Cohen and Williamson [16]. The Cronbach's α coefficient of the scale, whose validity and reliability tests were conducted by Baltaş et al. [17], was found to be 0.83. In this study, it was determined to be 0.77. The PSS is a 5-point Likert-type scale that consists of 15 questions. The total score obtained for each individual is divided by 15, which allows the individual's stress level to be allocated to one of six different groups. These six groups are classified as follows: 1.0–1.3, a stress level that does not allow the person to use his/her capacity and creates feeling of worthlessness; 1.4–1.9, a mild work stress level with a stimulating aspect; 2.0–2.5, a stress level that is favourable in terms of health and productivity; 2.6–3.1, a work stress level that is attractive to people with some aspects, has a high stimulating aspect but may adversely affect health; and 3.2–3.4 and 3.5–4.0, a stress level that will adversely affect health and productivity [17].

Maudsley obsessive-compulsive inventory

This scale is used to measure the type and prevalence of obsessive-compulsive symptoms in individuals. The MOCI was developed by Hodgson and Rachman [18] and its Turkish validity and reliability study was conducted by Erol and Savaşır [19]. The Cronbach's α coefficient of the adaptation of the scale was originally found to be 0.86. In this study, the Cronbach's α coefficient was found to be 0.81. The Turkish form of the scale was increased to 37 items by adding seven items from the Minnesota Multiphasic Personality Inventory (MMPI) as the 'rumination' subscale was added. Each item can be answered as either 'true' or 'false'. In addition to the total score, the scale has the sub-dimensions of control, cleanliness, slowness, doubt and rumination. The highest score that can be obtained from the scale is 37 and the lowest score is 0. A high score indicates a high level of obsessive-compulsive symptoms. The total score is obtained by adding up the correct answers, and is classified as follows: 0–12 points, the probability of detecting obsessive-compulsive disorder with a psychiatric examination is low; 13–17 points, there is a possibility of diagnosing obsessive-compulsive disorder with a psychiatric examination; and 18+ points, the probability of detecting obsessive-compulsive disorder with a psychiatric examination is considered high [19].

2.3. Data analysis

The data of the study were evaluated using SPSS version 22.0. Since the descriptive statistics and data showed a normal distribution in the analysis of the data (Shapiro–Wilk test, normal distribution charts, skewness and kurtosis coefficient values), the *t* test was used in independent groups for comparisons between groups, and the Pearson correlation coefficient was used to determine the relationship between the scales. Linear regression was conducted to examine the effects of the PSS on the MOCI. A significance level of $p < 0.05$ was accepted for all data analysis.

3. Results

Table 1 presents socio-demographic characteristics and employment conditions of the participants. In total, 54.3% of nurses and 41.7% of office workers were in the age group 31–40 years. The vast majority of the nurses (75.6%) were female, and the majority of office workers (52%) were male.

Table 2 compares the PSS and MOCI average scores of the nurses and office workers according to characteristics regarding their working lives. There was a statistically significant difference ($p = 0.003$) between the PSS average scores of the nurses (2.57 ± 0.61) and the office workers (2.34 ± 0.60). There was no significant difference between the MOCI average scores ($p > 0.05$).

When the characteristics of the participants' working lives and their scale scores were compared, it was determined that the PSS scores of nurses with low economic status ($p < 0.039$) and an average economic status ($p < 0.007$), those nurses who had been employed for 1–10 years, ($p < 0.001$) and those who worked 40 h per week ($p < 0.042$) were higher than those of the office workers and the difference between the groups was statistically significant. There was no statistically significant difference between the work schedule and the PSS average scores ($p > 0.05$). No significant difference was found between the MOCI average scores based on the characteristics of the participants' working lives ($p > 0.05$) (Table 2).

Table 1. Socio-demographic characteristics of nurses and office workers participating in the study.

	Nurses		Office workers	
Characteristic	*n*	%	*n*	%
Age (years)				
20–30	48	37.8	25	19.7
31–40	69	54.3	53	41.7
41–50	10	7.9	35	27.6
50–64	–	–	14	11.0
Gender				
Female	96	75.6	61	48.0
Male	31	24.4	66	52.0
Marital status				
Married	85	66.9	92	72.4
Single	42	33.1	35	27.6
Perceived economic status				
Low	30	23.6	34	26.8
Average	87	68.5	79	62.2
High	10	7.9	14	11.0
Years employed				
1–10	67	52.8	55	43.3
11–20	58	45.7	40	31.5
≥ 21	2	1.6	32	25.2
Work schedule				
Daytime work	28	22.0	118	92.9
Shift work	99	78.0	9	7.1
Hours per week				
40	43	33.9	91	71.7
> 40	84	66.1	36	28.3
Total	127	100	127	100

Note: *n* = sample size.

Table 3 presents the relationship between the total scores of the participants for the PSS and MOCI. There was a positive relationship between the total scores for the PSS and MOCI scales of both the nurses and the office workers.

The analysis results of the simple linear regression are presented in Table 4. According to the analysis, it was concluded that the PSS explained 6.1% of the change in the MOCI for nurses and 12.4% for office workers. When both regression models are observed, a 1-point increase in the PSS of nurses caused a 3.198-unit increase in the MOCI, and a 1-point increase in the PSS of office workers caused a 4.442-unit increase in MOCI.

4. Discussion

The literature on work stress contains many studies showing that nurses have high work stress [20–22]. Comparative studies on work stress of nurses have been conducted with nurses working in different departments [23–26] or with other occupational groups in the healthcare system [21,27,28]. A comparative study with individuals working in and out of the health field was conducted during the COVID-19 pandemic. This study compared perceived stress, obsessive-compulsive disorder, and anxiety and depression, and found that the stress, anxiety and depression scores of the group working outside the healthcare field were higher than those of healthcare workers. This result was interpreted as healthcare workers finding it easier to adapt to the way of life caused by the pandemic because of their educational background [29]. The findings of the current study show that the perceived work stress of nurses is higher than that of office workers working in non-healthcare units. This result is in line with the results of Biganeh et al. [30].

Obsessive-compulsive disorder adversely affects the entire life of individuals and causes problems related to their attendance at work [31]. In the other study conducted with nurses, obsessive-compulsive symptoms have also been found to be high [15]. A small number of studies comparing nurses with other occupational groups were carried out during the COVID-19 pandemic. In these studies, it was reported that obsessive-compulsive symptoms were higher in healthcare workers serving outside the medical field than in nurses and doctors [28] and that obsessive-compulsive symptoms were higher in healthcare workers before the pandemic and in workers working outside the healthcare field after the pandemic [29]. The current study determined that there was no difference between the MOCI scores of nurses and office workers

Table 2. Comparison of total scores of the PSS and MOCI according to characteristics related to the working life of nurses and office workers.

	PSS			MOCI		
Characteristic	Nurses	Office workers	*t*/*p*[a]	Nurses	Office workers	*t*/*p*
Scale mean	2.57 ± 0.61	2.34 ± 0.60	**3.053/0.003**	12.47 ± 7.46	12.87 ± 7.37	0.431/0.667
Perceived economic status						
Low	2.60 ± 0.50	2.33 ± 0.52	**2.103/0.039**	11.50 ± 8.64	11.79 ± 7.79	0.143/0.887
Average	2.58 ± 0.56	2.33 ± 0.61	**2.733/0.007**	13.05 ± 7.20	13.36 ± 7.08	−0.279/0.781
High	2.34 ± 1.15	2.37 ± 0.71	−0.065/0.949	10.30 ± 5.63	12.71 ± 8.14	−0.807/0.428
Years employed						
1–10	2.67 ± 0.55	2.33 ± 0.55	**3.333/0.001**	13.70 ± 7.59	13.65 ± 7.58	0.034/0.973
11–20	2.43 ± 0.64	2.33 ± 0.62	0.799 /0.426	11.34 ± 7.11	11.22 ± 6.67	0.084/0.933
≥ 21	3.23 ± 0.61	2.36 ± 0.65	1.823/0.078	4.00 ± 2.82	13.59 ± 7.71	−1.730/0.093
Work schedule						
Daytime	2.59 ± 0.69	2.34 ± 0.61	1.874/0.063	10.57 ± 8.01	12.83 ± 7.23	1.463/0.146
Shift	2.56 ± 0.58	2.27 ± 0.42	−1.454/0.148	13.01 ± 7.25	13.44 ± 9.44	−0.168/0.867
Hours per week						
40	2.56 ± 0.62	2.33 ± 0.57	**2.052/0.042**	11.41 ± 8.36	12.42 ± 6.97	−0.733/0.465
> 40	2.58 ± 0.60	2.35 ± 0.66	1.829/0.070	13.01 ± 6.94	14.00 ± 8.29	−0.673/0.502

[a]Student's *t* test/significance level $p < 0.05$.
Note: Data presented as mean ± standard deviation. MOCI = Maudsley obsessive-compulsive inventory; PSS = perceived work stress scale. These bold values are statistically significant results.

Table 3. Relationship between the PSS and MOCI scores of nurses and office workers.

Sample			MOCI
Nurses	PSS	*r*	0.299*
		p	0.001
Office workers	PSS	*r*	0.362*
		p	0.001

*Correlation significant at the 0.01 level.
Note: MOCI = Maudsley obsessive-compulsive inventory; PSS = perceived work stress scale.

Table 4. Effect of PSS levels of nurses and office workers on the MOCI.

		MOCI				
Sample		*β*	t	*p*	R^2	Adjusted R^2
Nurses	Constant	4.239	1.519	0.131	**0.069**	**0.061**
	PSS	3.198	3.032	0.003		
Office workers	Constant	2.470	0.998	0.320	**0.131**	**0.124**
	PSS	4.442	4.336	0.000		

Note: Dependent variable was the overall mean of the Maudsley obsessive-compulsive inventory (MOCI). PSS = perceived work stress scale. These bold values are statistically significant results.

working in non-healthcare units, while the MOCI scores of both groups were low. This result, which differs from other studies in the literature, suggests that the fact that the nurses in the study group were graduate nurses in a hospital setting might have increased their awareness of obsessive-compulsive disorder and its prevention.

Economic difficulties (such as economic inequality and lack of income) are an important risk factor in work stress [12,32]. The current study determined that work stress of nurses who defined their economic status as low or average was higher than that of office workers. The nurses' sense of having more stressful jobs than other employees working under similar economic conditions can be explained as a result of their different employment conditions (their physical surroundings, their exposure to factors that may threaten their health, their responsibility for problems encountered in the working environment, etc.), different duties (such as determining patient requirements, providing 24-h uninterrupted care during planning implementation and evaluation) [33]. Studies investigating the impact of the stage of employment on work stress show that work stress is higher and job satisfaction is low in the early years of working life [34–36]. In line with this, the findings of the current study determined that the PSS average scores of nurses who had been employed for 1–10 years were higher than those of office workers. This difference suggests that the challenging and vital responsibilities encountered in the early years of the nursing profession and the working conditions specific to the profession are a factor in the high levels of stress experienced by young nurses.

The current study determined that the PSS scores of the nurses working 40 h per week were higher than those of the office workers, but there was no statistically significant difference between nurses and office workers working 41 h or more per week. The group of nurses working 40 h per week consisted of nurses who had more professional responsibilities, planned the order of the clinic, coordinated the healthcare team members, had a high amount of paperwork to complete or had to work continuously during the day due to the chronic illnesses suffered by the patients. This result was contrary to expectations and it is thought that management and other individual responsibilities, in addition to the basic nursing responsibilities, had an influence on this.

The findings of the current study show that as work stress increased, obsessive-compulsive symptoms also increased. While the findings of studies examining the relationship between obsessive-compulsive symptoms and work stress support this finding [37,38], a study conducted with healthcare workers working in prison reported a strong negative relationship between job satisfaction and obsessive-compulsive symptoms [34].

It was known that stress affects obsessive-compulsive symptoms [8]. In our study, the effect of work stress on obsessive-compulsive symptoms was investigated and it was observed that PSS explained 6.1% of the change in MOCI in nurses; 12.4% in office workers. Similar results were found in a study conducted with marine officers, which suggested that work stress predicted obsessive-compulsive symptoms [38]. A remarkable finding in our study is that increased unit job stress causes more obsessive-compulsive symptoms in office workers. Although nurses perceive higher job stress, they show fewer obsessive-compulsive symptoms than office workers. This result is similar to the results of the study of Mrklas et al. [29], which was the only comparative study available during the COVID-19 pandemic. According to this study, perceived stress, depression and obsessive-compulsive symptoms are found at a higher rate in individuals working outside the healthcare field than in healthcare professionals [29]. These results suggest that nurses cope with work stress, which has become a part of their business life, more effectively than office workers and they have higher psychological resilience. In addition, nurses take courses on stress management, psychiatric disorders and prevention during their undergraduate education. This is believed to be effective in preventing other illnesses that may arise due to work-related stress. Consequently, nurses are able to be aware of their own and their colleagues' risky thoughts and behaviours and take preventive measures.

4.1. Limitations of the study

As this study was conducted with nurses and office workers in one university hospital in Turkey, it cannot be generalized to all nurses and office workers. The results of this study are limited to the time period of the study and the responses of the participants to the data collection tools used in the study.

5. Conclusion and suggestions for further research

The findings of this study make important contributions to occupational health practices. This study, in which the work stress and obsessive-compulsive symptoms of nurses were compared with those of office workers, found that the perceived work stress of the nurses was higher than that of the office workers; that work stress of nurses with a low or average economic status, nurses who had been employed for 1–10 years and nurses working 40 h per week was higher than that of the office workers; that there was no difference between the nurses and office workers in terms of obsessive-compulsive symptoms; and that these symptoms increased as work stress increased, and work stress explained obsessive-compulsive symptoms in both nurses and office workers.

Although the results of this study showed that the obsessive-compulsive symptoms of the nurses and office workers participating in the study were low, these symptoms were affected by work stress in both groups. This situation can impair the mental health of nurses and office workers, their ability to adapt to their careers, their efficiency in their roles and their communication with colleagues. In particular, nurses' obsessive-compulsive symptoms may cause problems that endanger the lives of the patients they care for. For this reason, it is thought that the studies to be conducted on nurses will contribute to the health of not only nurses but also the health of the patients they care for indirectly. Another interesting result is that although the job stress of office workers is lower than that of nurses, increased job stress in this group causes more obsessive-compulsive symptoms. This situation reveals the necessity for careful monitoring of office workers in terms of both work stress and obsessive-compulsive symptoms.

Based on the results of the study, it is thought that it would be beneficial especially for nurses to reduce their weekly working hours as much as possible and to prepare orientation programmes for young nurses who are new to work. In addition, it is recommended to monitor nurses and office workers with high work stress in terms of obsessive-compulsive symptoms, to provide consultancy services when necessary and to carry out studies to improve the skills of coping with work stress for all employees.

Finally, there are few studies on this subject in the literature and there is a need for studies to fill this gap. For this reason, it is thought that it would be useful to conduct future studies with other professions, especially with professions in the field of health, where work pressure and responsibility are high and critical decision-making is required. In addition, studies using qualitative research methods in addition to quantitative methods will contribute to the determination of the causes and consequences of obsessive-compulsive symptoms seen in employees.

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Disclosure statement

No potential conflict of interest was reported by the authors.

Ethical approval

Ethical approval was obtained from the Ethics Committee of the Zonguldak Bülent Ecevit University (Protocol number: 2019-418) and from Zonguldak Bülent Ecevit University Hospital before the commencement of the study. The nurses and office workers were fully informed about the study and also informed consent was obtained. This study was performed in line with the principles of the Declaration of Helsinki.

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