The Relationship between Individual Workload Perception and Individualized Care Perceptions of Nurses*

Hemşirelerin Bireysel İş Yükü Algısı ile Bireyselleştirilmiş Bakım Algıları Arasındaki İlişki

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Abstract

Aim: The purpose of the study was to examine the relationship between nurses' perceptions of individual workload and perceptions of individualized care.

Method: The study was a descriptive cross-sectional and conducted with 424 nurses. "Nurse Information Form", "The Individual Workload Perception Scale (IWPS-R)", and "the Individualized Care Scale: Nurse A version (ICS Nurse-A)" were used as data tools.

Results: The nurse's IWPS-R score was 3.50±0.67, and the ICS- Nurse A was 3.48±0.82. The factor that contributed most to nurses' positive perceptions of their workload was "peer support" and the factor with the least contribution was "manager support". "Clinical situation" was the subscale with the highest mean score (3.70±0.87), and "personal life situation" was the subscale with the lowest score in ICS-Nurse A (2.99±0.98). The nurses' perceptions of their workload and individualized nursing care were at moderately positive levels, and there was a significant correlation between them. The one unit increase in the individual workload' perception of nurses would lead to a 0.447 unit increase in their perception of individualized care.

Conclusions: Nurses' perceptions of individual workload were rated as moderately positive. There was a statistically significant relationship between perceived individual workload and individual nursing care.

Keywords: Nurse, workload, job satisfaction, individualized care, perception.

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Öz

Amaç: Bu çalışmada hemşirelerin bireysel iş yükü algısı ile bireyselleştirilmiş bakım algıları arasındaki ilişkiyi incelemek amaçlanmıştır.

Yöntem: Araştırma 424 hemşire ile kesitsel ve tanımlayıcı olarak yapılmıştır. Çalışma verileri "Hemşire Bilgi Formu", "Bireysel İş Yükü Algı Ölçeği (BİYAÖ)" ve "Bireyselleştirilmiş Bakım Ölçeği-Hemşire A versiyonu (BBÖ Hemşire-A)" ile elde edilmiştir.

Bulgular: Hemşirelerin BİYAÖ'nden 3,50±0,67 ve BBÖ Hemşire-A Ölçeğinden ise ortalama puanları 3,48±0,82'dir. Hemşirelerin BİYAÖ'nin alt boyutları içinde en fazla meslektaş desteğinden ve en az ise yönetici desteğinden olumlu yönde etkilendikleri bulunmuştur. BBÖ Hemşire-A içinde en yüksek ortalama puana sahip alt boyut "klinik durum" (3.70±0.87) iken en düşük ortalama puana sahip alt boyut "kişisel yaşam durumu" (2.99±0.98) olduğu bulunmuştur. Hemşirelerin bireysel iş yükü algısı ile bireyselleştirilmiş bakım algısı arasında orta düzeyde pozitif yönde anlamlı bir ilişki bulunmuştur. Hemşirelerin bireysel iş yükü algılarındaki bir birimlik artış, hemşirelerin bireyselleştirilmiş bakım algılarında 0,447 birimlik bir artışa yol açacaktır.

Sonuç: Hemşirelerin bireysel iş yüklerine ilişkin algıları orta düzeyde olumlu bulunmuştur. Hemşirelerin bireysel iş yükü algıları ile bireyselleştirilmiş bakım algıları arasında istatistiksel olarak anlamlı bir ilişki olduğu saptanmıştır.

Anahtar Sözcükler: Hemşire, iş yükü, iş doyumu, bireyselleştirilmiş bakım, algı.

Introduction

Today, rapid developments and changes in health services have led to the abandonment of traditional concepts of health care and the preference for more professional health services (Mersin, İpcioğlu and Koca, 2018). As the concept of the safety and security of both patients and staff has gained more importance in health services, evaluation of perceived workload has also gained importance in terms of helping to prevent health personnel from making medical errors (Sönmez, Oğuz, Kutlu and Yıldırım, 2017). While the workload is a concept related to the density of the duties, it is also considered to be the source of stress. The workload is affected by various environmental, organizational and psychological factors, as well as by work-related factors including the individual's own perceptual and cognitive skills (Mersin et al., 2018). The heavy workload of nurses is a significant problem for the health system. There are three main levels to examine the workload of nurses: (1) unit (2) job and (3) duty. Unit level workload includes some nursing skills, and knowledge; the job level workload is based on perceptions of "general quantity of work in a daily of nurses, and the duty level workload takes notice of the nurse resources to make a mission. Especially, the unit-level workload is associated with patient care intensity by the short number of nurses (MacPhee, Dahinten and Havaei, 2017). While the average number of nurses per 1000 people is 8.8 according to the "Organization for Economic Co-operation and Development (OECD)" data, it is 2.4 in Turkey, which is below the OECD average (OECD, 2021). Since the number of studies on the causes of the shortage of nurses is limited, little is known about why there is a particular shortage in Turkey, however, the main reason is known to be that nurses quit their careers due to the negative working environment (Turkmen, 2015).

Greater intensive nursing workloads have been associated with a negative impact on patient outcomes (MacPhee et al., 2017). Studies comparing the number of nurses and patient outcomes have linked increased numbers of patients per nurse with higher rates of mortality (Fagerstrom, Kinnunen and Saarela, 2018; Lee, Cheung, Joynt, Leung, Wong and Gomersall, 2017; McHugh et al., 2016), urinary tract infections, hospital-acquired pneumonia, pressure ulcers, sepsis, nosocomial infections, shock, upper gastrointestinal bleeding and cardiac arrest (Türkmen, 2015). A meta-analysis conducted in 2018 reported that a rising in the number of nurses led to a 14% reduce in the in-hospital mortality of patients (Driscoll et al., 2018). Although the individual workload is frequently calculated in terms of the traditional nurse-to-patient ratio, it can be said that the workload is to have perception-based content. The perception of workload is the perception an employee has about the work assigned to them and having a perception that their workload is high indicates the employee's belief that it is above normal. This also suggests that the individual feels pressure in terms of the time available and the number of people making demands from them (Çiftcioğlu, Tunç, Güneş, Değer and Çiftci, 2018). Patient safety depends on the nursing workload being organized in a systematic, reasonable manner. When a nurse has a heavy workload, this not only

affects the individual nurse but also other nurses and healthcare providers working in the same system. An insufficient number of nurses can shorten the amount of time available for nurses to provide help to their colleagues. This lack of time can also lead to inadequate training or supervision of new nurses (Mudihanselage and Chamaru, 2015). In addition, the shortage in the number of nurses or unhealthy working environment was found to lead nurses to give incomplete nursing care, increase their absenteeism and job dissatisfaction (Aslan and Gökdemir, 2019).

"Individualized care" can be defined as nursing care that responds to the beliefs, values, emotions, thoughts, uniqueness, and integrity of each specific patient (Yıldız, Cingol, Yıldız and Kasikcki, 2018). When nursing interventions are implemented in a way that respects the characteristics, individuality, preferences, experiences, requirements, feelings, perceptions, opinions of the individual and autonomy of a patient, individuals will receive different types of care despite having the same diagnosis (Papastavrou et al., 2015; Özdemir, 2019). An individual workload is important for nurses in regards to managing patient care safely and effectively. Also, meeting the individual care needs of patients forms the basis of nursing workload measurement. The nurses' unit or job-level workload may be a "leading indicator" for managing and determining the quality of individualized patient care (MacPhee et al., 2017). In a study conducted in Turkey, nurses stated that the most common medical errors, such as hospital infections, diagnostic errors and injuries from needles or other sharp object injuries, were caused by fatigue, workload and long working hours (Küçük Alemdar and Yılmaz, 2020).

The factors that contribute to the creation of the care environment may vary depending on the specific institution and can also differ in different countries. One of the challenges faced by managers is to find a way to understand the influence of these factors. Therefore, decreasing the individual workload of nurses should be as much of a focus and obligation for nursing managers as seeking to increase the number of nurses (Driscoll et al., 2018). We believe that the answers to the following questions, taken as a whole, are likely to point to the factors that affect perception of nurses of individualized care the most: "Who is in the care team?", "Is there enough equipment to provide care?", "What is the nurses' communication with the rest of the team like?", "Do the nurses intend to stay in the profession?", "What is the general level of satisfaction with nursing?", "Do the nurses find their workload reasonable?". Evaluating the quality of individualized care provided to patients is one of the primary responsibilities of health care professionals in hospitals. This study thus focused on the relationship between perceptions of individual workload, and perceptions of individualized care of nurses. The theoretical assumption was that nurses would have more positive perceptions of individualized care as their workloads decreased.

The number of studies in Turkey examining nurses' individual workloads and their perceptions of individualized care under separate headings is very limited. Especially, the absence of an equitable allocation of workload among nurses reduces the quality of patient care and also has a negative effect on nurses' motivation. This study focused on the nurses providing direct patient care in the inpatient unit and the factors that affect the workload perception and the perception of individualized care, which can be evaluated and acted upon. We think that the current study will supply a basis for further studies to examine the relationship between workload and patient outcomes in our country.

Method

Purpose of the Research: The study aimed to investigate the relationship between individual workload perception and individualized care perceptions of nurses.

Research Questions:

- What are nurses' perceptions of individualized care?

- What are nurses' perceptions of their individual workloads and general satisfaction?

- Is there a relationship between perceptions of workloads and perceptions of individualized care of nurses?

Place and Time of Research: This descriptive and cross-sectional study was conducted in one of the regions of Turkey between 2 March 2016, and 30 May 2016 in the clinics of a university hospital, a hospital affiliated with a public hospitals association, and a private hospital. In all three hospitals, patient treatment and care services were provided within the framework of the Health Quality Standards of the Ministry of Health (2020) which ensure the continuity of quality and patient safety, and the procedures and principles for the implementation of these standards.

The Sample of the Research: The nurse managers in the three hospitals were asked to provide several potential nurses working in the following units: Medical wards (internal medicine, cardiology, neurology, endocrinology, gastroenterology, chest diseases, pediatric services), surgical wards (general surgery, thoracic and cardiovascular surgery, orthopedic surgery, plastic surgery, urology, the obstetrics and gynecology clinic, and the pediatric surgery unit) and intensive care units (anesthesia, surgery, neurology and cardiovascular intensive care units). A total of 97 nurses were excluded from the universe of the study since outpatient nurses and nurse managers did not provide patient care. The universe of the study included of 1573 nurses providing patient care and working in inpatient units in three hospitals. Power analysis was performed to determine the sample size from the known universe. A significance level of 0.05 and an effect size (d) of 0.15 were determined for a power (1-β) of 0.80. In the current study, Cohen's effect size system was used and the middle effect size was taken as 0.15 for power analysis were used as reference (Özçomak and Cebi, 2017). The sample size was calculated to be 375. It was aimed to reach 424 nurses considering the possible data losses. A total of 424 nurses taking part in the study were used the simple random sampling method, a probability sampling in which individuals are equally likely to be selected from a population. The inclusion criteria of the study were as follows: (1) Providing care to inpatients, (2) Filling in the questionnaire fully, (3) Being employed for at least six months, and (4) Participating voluntarily.

Data Collection Tools: The data were collected using the Nurse Information Form which consisted of questions about the socio-demographic and occupational characteristics of the nurses, the Revised Individual Workload Perception Scale (IWPS-R), and the Individualized Care Scale-Nurse A version (ICS-Nurse A).

Nurse Information Form: The nurse information form consisted of 12 questions including six questions on personal characteristics such as gender, age, educational status, marital status, and six questions on occupational characteristics of nurses such as the institution of work, number of years of employment, type of employment, and type of hospital.

Revised Individual Workload Perception Scale (IWPS-R): This scale was developed by Cox, Teasley, Lacey and Olney in 2010 to evaluate nurses' perceptions of workload. It consists of 29 items. It is a 5-point Likert-type scale in which each item is scored between 1 and 5. The scale consists of five subscales: peer support, unit support, manager support, workload, and intent to stay. A high score obtained from the scale indicates that a nurse's individual perception of their workload perception, namely, their general workload-related satisfaction, is positive. Cronbach's alpha coefficients for reliability analysis were calculated as .93 for the whole scale, .88 for manager support, .86 for peer support, .68 for unit support, .89 for intention to stay, and .80 for workload subscales (Cox et al., 2010). The Turkish version study of the IWPS-R was conducted by Özyürek and Kılıç (2021). Cronbach's alpha coefficients for reliability analysis in the Turkish version of the IWPS-R were calculated as .92 for the whole scale, .93 for manager support, .88 for peer support, .72 for unit support, .85 for intention to stay, and .73 for workload subscales.

Individualized Care Scale-Nurse A Version (ICS-Nurse A): The ICS-Nurse A version was developed by Suhonen, Schmidt and Radwin in 2007 to evaluate nurses' perceptions of individualized care in settings where healthcare services are provided. The scale consists of two parts. In the first part, the extent to which caregiving nurses support individualized care in care practices (ICS-Nurse A) is assessed. The second part assesses conscious patients' perceptions of individualized care in the nurses' last shifts (ICS-Nurse B). In this study, only the ICS-Nurse A was used. The Cronbach's alpha coefficient of the original ICS-Nurse A version is 0.95 (Suhonen et al., 2007). The Turkish version of the scale was made in 2010 by Acaroğlu, Suhonen, Şendir and Kaya. The ICS-Nurse A is Likert-type scale of 5-point including of 17 items. Each item is scored between 1 and 5. High scores indicate that nurses have more supportive perceptions of individualized care. The scale consists of three subscales: Clinical Situation (Clin A), Personal Life Situation (Pers A), and Decisional Control over

Care (Dec A). The Cronbach's alpha coefficient of the Turkish version of ICS-A and subscales were .92 for Turkish ICS-A, .86 for the clinical situation, .72 for personal life situation and .83 for decisional control over care (Acaroğlu et al., 2010) In this current study, Cronbach's alpha was found to be .94.

Data Collection: A pilot test was conducted in order to evaluate whether there were any factors leading to difficulties to the participants in understanding the questions to increase the data quality in the questionnaire. The literature indicates that 30 participants are a reasonable value or starting point for the pretest of questionnaires. Therefore, the questionnaire was tested by conducting a preliminary (pilot) test with a group of 30 nurses at the beginning of the day shift (Delaney, Barrere, Robertson, Zahourek, Diaz and Lachapelle, 2016; Perneger, Courvoisier, Hudelson and Gayet-Ageron, 2015; Ruel, Wagner and Gillespie, 2016). There were no nurses who participated in the pilot survey who gave feedback that the items in the questionnaire were not clear and understandable. Nurses who participated in the pilot testing were not included in the study sample. The nurses were informed about the purpose of the study and that they had the option to leave the study whenever they wanted and the voluntary nurses were included in the study. The nurses were expected to respond individually without discussing the questionnaire with anyone and asked to fill in the questionnaire at the end of their shifts or during a break. Data collection took approximately 10-15 minutes. The nurses returned the questionnaire to the researchers in a sealed envelope at the end of their shifts.

Evaluation of Data: The Statistical Package for Social (SPSS) 18.0 program was used for data analysis. Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to define the sample and study variables (age, gender, education levels, clinics they work, type of shift, subscales etc.). The correlation between the scales (IWPS-R and ICS Nurse-A) and subscales were evaluated using Pearson correlation analysis. Furthermore, simple linear regression analysis was performed to reveal the general relationship between the perception of individual workload and the individualized care perception, while multiple linear regression analysis with the enter method was performed to determine the relationship between the individualized care perception and each of the subscale (manager support, peer support, unit support, intent to stay) of individual workload perception. The level of significance was taken as p<0.05.

Ethical Aspect of Research: Ethics committee approval was received from the clinical research ethics committee of the university involved (06 February 2016/ No: 121/25) and written permissions were obtained from each hospital. Informed consent was obtained from the nurses who voluntarily nurses in the study. Researchers received permission from the authors who developed both scales via e-mail.

Limitations of the Research: This study had some limitations. Firstly, the workload may differ in different clinical units and different hospitals within any given region, being either too high or too low. This potential for variation constitutes the methodological weakness of many studies, including this one. Another limitation is that the data in this study only consists of nurses' subjective perceptions. How they perceive individualized care perception may be affected by various psychological factors and was not combined with objective measurement of workload, such as the physical burden of work. To overcome these limitations, further studies could be designed to examine the results of previous studies investigating workload and perceptions of individualized care, leading to more specific information and results.

Results

Table 1. Demographic and professional characteristics of the nurses (N:424)

Variables	Group	n	%
Gender	Female	366	86.3
	Male	58	13.7
Age X̄:31.50±7.95 (min:18 max:54)	24 or below	125	29.5
	25-34	119	28.1
	35-44	162	38.2
	45 or above	18	4.2
Education level	High school	118	27.8
	Associate degree	140	33.0
	Bachelor's degree	150	35.4
	Master's degree	16	3.8
Marital Status	Married	251	59.2
	Single	173	40.8
Number of children	None	196	46.2
	1	70	16.5
	2	125	29.5
	3	28	6.6
	4 or more	5	1.2
Type of Institution	University hospital	111	26.2
	Public hospital in city	267	63.0
	Private hospital	46	10.8
Bed capacity of the institution	< 200	101	23.8
	500 or more	323	76.2
Clinics they work	Medical clinics	213	50.3
	Surgical clinics	124	29.2
	Intensive care	87	20.5
Length of time in nursing	<1	32	7.5
	1-5	138	32.5
	6-10	97	22.9
	11-15	55	13.0
	16 or more	102	24.1
Length of time in current institution	<1	124	29.2
	1-5	221	52.1
	6-10	48	11.3
	11-15	15	3.5
	16 or more	16	3.8
Shift type	Day	56	13.2
	Night	94	22.2
	Day/Night Rotation	274	64.6
Number of shifts per month	None	61	14.4
	1-2	27	6.4
	3-4	52	12.3
	5-6	121	28.5
	7 or more	163	38.4
Total		424	100

X̄: Arithmetic mean, n: number, %: Percent

Table 1 shows the demographic and professional characteristics of 424 nurses. The mean age of the nurses was 31.50±7.95 years. Most of the nurses had received an undergraduate education (35.4%), while the majority of them were married (59%), most of the nurses had two children (29.5%) (Table 1). The most of the nurses were working in hospitals with more than 500-bed capacity (76.2%) and internal units (50.3%). Most of the participants (32.5%) had been employed for less than five years, and a majority worked in shifts (64.6%) (Table 1).

Table 2. The scale mean points of Individualized Care Scale-Nurses A and Revised Individual Workload Perception (N=424)

	Subscale	Items	$\bar{x}$	SD
R-IWPS subscale	Peer Support	6	3.90	0.78
	Unit Support	6	3.55	0.74
	Manager Support	8	3.12	1.08
	Workload	4	3.51	0.88
	Intent to Stay	5	3.52	1.12
Total	IWPS (Nurse Satisfaction)	29	3.50	0.67
ICS-Nurse A subscale	Clinical situation	7	3.70	0.87
	Personal life situation	4	2.99	0.98
	Decisional control	6	3.56	0.93
Total	ICS- Nurses A	17	3.48	0.82

*ICS-Nurs A: Individualized Care Scale- Nurses A version; R-IWPS: Revised Individual Workload Perception; $\bar{x}$: Arithmetic mean; SD:Standard deviation

Table 2 presents the mean IWPS-R and ICS-Nurse A subscale scores. The mean IWPS-R score was 3.50±0.67. The factor that contributed to positive perceptions of workload the most was "peer support" and the factor that contributed the least was "manager support". The mean ICS-Nurse A score was 3.48±0.82. The highest mean ICS-Nurse A subscale score was obtained from the "clinical situation" subscale (3.70±0.87) and the lowest score from the "personal life situation" subscale (2.99±0.98).

Table 3. Comprasion of Nurses' Workload Perceptions and Individualized Care Perceptions According to Their Characteristics

Variables	Group	R-IWPS			ICS-Nurse A		
		$\bar{x}$	SD	t/F test	$\bar{x}$	SD	t/F test
Number of children	None[a]	3.44	0.68	.019*	3.44	0.87	.236
	1[b]	3.37	0.62	c>a, b	3.35	0.78	
	2[c]	3.66	0.68		3.61	0.80	
	3[d]	3.50	0.70		3.52	0.77	
	4 or more[e]	3.79	0.25		3.55	0.78	
Type of Institution	University hospital[a]	3.36	0.59	.000***	3.38	0.85	.291
	Public hospital in city[b]	3.76	0.55	c>a	3.55	0.88	
	Private hospital[c]	3.67	0.77		3.57	0.99	
Bed capacity of the institution	< 200	3.93	0.67	.000***	3.60	1.02	.105
	500 or more	3.37	0.62		3.45	0.76	
Length of time in current institution (year)	<1[a]	3.48	0.71	.018*	3.45	0.87	.430
	1-5[b]	3.47	0.68	c>a, b	3.52	0.79	
	6-10[c]	3.73	0.60		3.52	0.88	
	11-15[d]	3.50	0.54		2.84	0.65	
	16 or more[e]	3.44	0.59		3.85	0.82	
Shift Type	Day[a]	3.80	0.64	.002**	3.55	0.95	.383
	Night[b]	3.43	0.65	a>b, c	3.39	0.84	
	Day/Night rotation[c]	3.47	0.69		3.51	0.80	
Number of shifts per month	None[a]	3.77	0.65	.003**	3.55	0.91	.676
	1-2[b]	3.66	0.60	a>c, e	3.68	0.63	
	3-4[c]	3.37	0.69		3.42	0.71	
	5-6[d]	3.50	0.64		3.48	0.77	
	7 or more[e]	3.42	0.70		3.46	0.91	

R-IWPS: Revised Individual Workload Perception; ICS-Nurs A: Individualized Care Scale-Nurses A version; ClinA-Nurse: Clinical situation; PersA-Nurse: Personal life situation; DecA-Nurse: Decisional control;t=student t test; F test=ANOVA *p<.05; **p<.01; ***p<.001; Post-Hoc test (Tukey).

When looking at the data in Table 3, the nurses' perception of individual workload was found to show a significant difference according to having a child, the institution they worked in, the bed capacity of the institution, length of time in current institution, the type of shift and the number of monthly shifts ($p < .05$).

Table 4. Pearson correlation coefficients for the relationship between Revised Individual Workload Perception and Individualized Care Scale Scores (N=424)

R-IWPS and Subscale		ICS-A and subscale			
		ClinA- Nurse	PersA- Nurse	DecA- Nurse	ICS- Nurs A
Peer Support	r	.337	.176	.239	.291
	p	.000**	.000**	.000**	.000**
Unit Support	r	.361	.246	.257	.328
	p	.000**	.000**	.000**	.000**
Manager Support	r	.289	.194	.217	.266
	p	.000**	.000**	.000**	.000**
Workload	r	.304	.236	.228	.289
	p	.000**	.000**	.000**	.000**
Intent to Stay	r	.235	.095	.109	.172
	p	.000**	.050*	.025*	.000**
ICS- Nurs A	r	.414	.254	.285	.364
	p	.000**	.000**	.000**	.000**

R-IWPS: Revised Individual Workload Perception; ICS-Nurs A: Individualized Care Scale-Nurses A version; ClinA-Nurse: Clinical situation; PersA-Nurse: Personal life situation; DecA-Nurse: Decisional control.; r: correlation coefficient; p: Sig.2 tailed-values; *p<0.05; **p<0.001

A moderately positive, significant correlation was found between IWPS-R and ICS-Nurse A ($r = .364$; $p < .05$) (Table 4). The results of simple and multiple linear regression analysis performed on the relationship between nurses' perception of individual workload and its subscale, which are considered as the independent variable(s) in the study, and individualized care perception, which is considered as the dependent variable, are presented in Table 4.

Table 5. Result the regression analysis between Revised Individual Workload Perception Subscales and Individualized Care Scale Scores (N=424)

Independent Variables	B	SE	β	t	p	95% CI		VIF
						LL	UL	
Constant^λ	1.923	.198		9.689	.000**	1.533	2.313	1.000
R-IWPS	.447	.056	.364	8.031	.000**	.338	.556	
F=64.500, p=.000** R²=.133, Durbin-Watson: 1.811								
Constant^λλ	1.611	.225		7.173	.000**	1.164	2.042	
Peer Support	.125	.058	.118	2.161	.031*	.009	.233	1.428
Unit Support	.219	.059	.197	3.724	.000**	.105	.335	1.392
Manager Support	.061	.042	.080	1.459	.145	.022	.142	1.488
Workload	.135	.057	.144	2.367	.018*	.024	.227	1.505
F=15.715, p=.000** R²=.158, Durbin-Watson:1.804								

B: Unstandardized beta coefficients; SE: Standard Error; β: Standardized beta coefficients; CI: Confidence interval, LL: Lower limit, UL: Upper limit; VIF: Variance Inflation Factor; λ: Simple Linear Regression; λλ: Multiple Linear Regression; *p<0.05; **p<0.001.

The findings in Table 5 showed that simple (F=64.500; $p<.001$) and multiple (F=64.500; $p< .001$) linear regression models were significant. The model created for this relationship is given below: ICS-Nurse A = 1.923 + 0.447 * IWPS-R. According to this model, a one-unit increase in the perception of workload leads to an increase of 0.447 units in the perception of individualized care.

Discussion

Nurses' Perceptions of Individual Workload: In this study, nurses' scores for the perception of their individual workload, namely, their general satisfaction with their working environment, were found to be at a moderate level. In a study by Aslan and Gökdemir (2019), nurses' satisfaction levels related to their working environment were also found to be at a moderate level. The nurses were found to receive support from their colleagues the most in terms of handling their workload. The peer support subscale describes the relations of the nurses with each other and evaluates the relationships, support, and harmony between colleagues in the same working environment (Cox et al., 2010). Nurses who work together in harmony are in a more positive mood and this has a positive effect on their motivation (Hakmal, Karadağ and Demir, 2012). In different studies investigating nurses' perceptions of workload conducted by Cox et al. (2010), and Lacey, Cox, Lorfing, Teasley, Carroll and Sexton (2007), the highest mean score was found to be from the peer support subscale. The results of this study were thus in similarly with the literature.

In this study, managers were found to be a negative trigger on the nurses' perceptions of their workload. The manager support subscale evaluates nurses' concerns about their needs and the extent to which their managers help them with work-related problems (Cox, Teasley, Lacey, Carroll and Sexton, 2007). Studies have reported that the factor that has the least positive effect on the perception of individual workload is manager support (Cox et al., 2007; Lacey et al., 2007). Among some of the psychosocial stressors in the working environment, heavy workload, poor manager support, and fear of being blamed for things were reported by also psychiatric nurses were reported (Hylen, Kjellin, Pelto-Piri and Warg, 2018). The fact that nurse managers have a direct effect on the results is the main result of the current study. In particular, it was concluded that nurse managers may affect the perception of nurses' care in terms of how they monitor and provide solutions to nurses' workload (MacPhee et al, 2017).

Nurses' Perceptions of Individualized Care: Individualized care is a result of patient-nurse interaction (Suhonen, Gustafsson, Katajisto, Valimaki and Leino-Kilpi, 2010). The interaction between a patient and a nurse includes the determination of what needs that an individual cannot meet by themselves as a result of their illness or any disability. Evaluating how nurses provide individually-tailored care to patients will help to determine the nurses' perceptions regarding understanding, caring, and accepting each individual's values.

In this study, nurses' individualized care perception were positive in general. Many studies have reported similar results (Can and Acaroğlu, 2015; Demirel and Turhan, 2020; Papastavrou et al., 2015; Yıldız et al., 2018).

The "clinical status" subscale, which includes the patient's responses to the illness, emotions, feelings and what his/her illness means to him/her, was found to be the most positively perceived subscale among the subscale of ICS-Nurse A by the nurses participating in the study. This finding of the study is parallel to the other studies (Can and Acaroğlu, 2015; Papastavrou et al., 2015; Yıldız et al., 2018). Individualized care makes routine care personalized to the unique part of each patient's particular situation (Amaral, Ferreira and Suhonen, 2014).

If the care provided to each patient is not properly individualized, the care may revert to being traditional routine care (Amaral et al., 2014). In this and other studies, nurses were found to give less attention to the "personal life situation" of patients while providing individualized care (Papastavrou et al., 2015; Yıldız et al., 2018). This result suggests that nurses consider patients' values, beliefs, and attitudes less important in effectively meeting their needs and do not provide care to patients in a holistic manner.

Comparison of Individual Workload Perception and Individualized Care Perception According to Nurses' Demographic and Professional Characteristics: The individual workload perceptions (general nurse satisfaction) of the nurses participating in the study were found to show a significant difference according to the status of having a child. In the study conducted by Saygılı (2008) and Özyer (2016) also, the participants who have children were reported to perceive their working environment more positively compared to the other participants. The fact that nurses who have children can be facilitated in working conditions such as shifts in institutions where staff employment is sufficient, together with the adjustments made by the regulations, the support of their colleagues, and the understanding management style, may lead nurses to perceive their workload more positively compared to other nurses.

In this current study, the perception of the individual workload of nurses, according to the institutions where the nurses work, working in public hospitals was found to be quite positive (general nurse satisfaction was high) compared to nurses working in private and university hospital. Moreover, when looking at the details of the institution's bed capacity, the positive perception of individual workload in hospitals with a bed capacity of 200 and below supports the positive perception in public hospitals. As a result of the study, the individual workload perceptions (general nurse satisfaction) of the nurses who work only during the day and who do not have night shifts were determined to be more positive than the other nurses. The fact that the nurses do not have to do many jobs other than the job description due to the availability of data entry personnel or medical secretaries in the day shift, the higher number of nurses working in the day shift than the number of nurses working in the evening and night shifts, the work that needs to be done is properly distributed among the nurses are thought to be the factors increasing the overall satisfaction of nurses. The results of this study are in similarly with other studies (Saygılı, 2008; Ayaz and Beydağ 2014).

The Relation Between IWPS-R and ICS-Nurse A: A moderately positive, significant correlation was found among the nurses' general perceptions of individual workload and their general perceptions of individualized care. This finding indicates that nurses' general perceptions of individualized care would become more positive as their perceptions of individual workload (general nurse satisfaction) become more positive. Kutney-Lee, Wu, Sloane & Aiken (2013) summited in their study on the working conditions of nurses that basic nursing duties could not be performed as a result of the increased workload. Most of the nurses reported, in two previous similar studies, that they thought their workload was unreasonable and that their workload exceeded their daily working hours. As a result, nurses informed that they could not ensure of good quality care to their patients (Bogossian, Winters-Chang and Tuckett, 2014; Kutney-Lee et al., 2013; Phillips, 2020).

Similar studies also show that the much the nurses of workload, the higher the possibility they will provide inadequate patient care (Aiken et al., 2017; Kutney-Lee et al., 2013; MacPhee et al., 2017; Phillips, 2020). When nurses experience a reasonable workload and a healthy work environment, nursing care perceptions of nurses are also positively affected. A healthy work environment encourages nurses' clinical knowledge, expertise and abilitys. Nurses working in such a healthly environment are also urged to ensure unique nursing care to patients (Kieft, de Brouwer, Francke and Delnoij, 2014).

A significant correlation was found between nurses' individualized care perceptions and the unit support subscale of IWPS-R. It can be stated that nurses support individualized care more when all their equipment or care needs are fully met and are met on time. Medications, materials, and the equipment required for nursing care are physical resources affecting nurses' ability to provide care. Lack of physical resources leads to errors of negligence in care (Kalisch, Landstrom and Williams, 2009).

Studies have shown that positive working environments with reasonable workloads positively affect and benefit nurses' satisfaction, intent to stay at work, and patient outcomes (Aslan and Gökdemir, 2019; Bingöl and Kutlu, 2019; Verulava, Jorbenadze, Dangadz and Karimi, 2017).

The results of this study were thus in similarly with the literature. The nurses support individualized patient care when they have a positive working environment with the required equipment for patient care, a reasonable workload, and peer and manager support. The results of the simple linear regression analysis regarding the relationship between perception of individual workload and perception of individualized care show that the study achieved its purpose: in other words, it can be deduced that "There is a significant relationship among perception of individual workload and perception of individualized care in nurses".

Conclusion

The study results indicate that there is a significant relationship between nurses' individual workload perceptions and individualized care perceptions. The factor that affects nurses' individual workload perceptions positively the least was found to be manager support. Furthermore, unit support was determined to be the aspect of the perception of individual workload which had the most positive effect on the perception of individualized care. Nurse managers can reduce nurses' workload levels and provide support to motivate nurses. Working environments that will potentially affect nurses' individualized care perceptions and their workload can be provided with managerial support. Individualized care can be provided most effectively and the quality of nursing services can be increased when nursing managers take the problems of nurses into account, meet their equipment and care needs, and improve workload. The perception of individual workload is important in terms of improving the working environment, and the perception of individualized care is important in terms of nursing

care quality. Therefore, it is recommended to conduct studies with large populations where the factors affecting nurses' workload and individualized care perceptions, which are specific to medical and surgical clinical settings, are investigated.

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