The Relationship Between Nursing Students' Perceptions of Individualized Care and Quality of Care: A Descriptive Cross-sectional Study

Hemşirelik Öğrencilerinin Bireyselleştirilmiş Bakım ve Bakım Kalitesi Algıları Arasındaki İlişki: Tanımlayıcı Kesitsel Bir Çalışma

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Abstract

This study aims to evaluate nursing students' perceptions of individualized care and quality of care and examine the relationship between them. The population of this descriptive, cross-sectional study consisted of 2nd, 3rd, and 4th-year students (n=416) who were enrolled in the nursing department of a state university. The sample consisted of 275 nursing students. Data were collected online between April and May 2022 using the "Student Information Form", "Individualized Care Scale- Nurse (ICS-A Nurse)" and "Caring Behaviors Inventory-24 (CBI-24)". Data was analyzed using the Independent samples t-tests, ANOVA, correlation analysis, and regression analysis. The CBI-24 and ICS-A total mean scores were 5.01±0.58 and 4.12±0.53, respectively. The most commonly perceived barrier to providing individualized care was "communication problems". The ICS-A was found to explain approximately 42.6% of the variance in students' CBI-24 mean score ($p<0.001$). Nursing students' perceptions of supporting patients' individuality and quality of care were above average, and the perception of individualized care predicted the perceived quality of care.

Keywords: Care behaviors, quality of care, individualized care, nursing, students.

Öz

Bu çalışma, hemşirelik öğrencilerinin bireyselleştirilmiş bakım ve bakım kalitesi algılarını değerlendirmek ve aralarındaki ilişkiyi incelemek amacı ile gerçekleştirildi. Tanımlayıcı ve ilişki arayıcı tipteki bu çalışmanın evrenini, bir devlet üniversitesinin hemşirelik bölümüne kayıtlı 2., 3. ve 4. sınıf öğrencileri (n=416) oluşturmuştur. Araştırmanın örneklemini 275 hemşirelik öğrencisi oluşturmuştur. Araştırma verileri, Nisan-Mayıs 2022 tarihleri arasında "Öğrenci Bilgi Formu", "Bireyselleştirilmiş Bakım Skalası-A-Hemşire Versiyonu (BBS-A-Hemşire)" ve "Bakım Verme Davranışları Envanteri-24 (BDÖ-24)" ile online toplanmıştır. Verilerin analizinde bağımsız gruplarda t testi, ANOVA, korelasyon analizi ve regresyon analizi kullanılmıştır. Öğrencilerin BDÖ-24 ve BBS-A puan ortalamaları sırası ile 5,01 ± 0,58 ve 4,12 ± 0,53'tür. Bireyselleştirilmiş bakım sağlamada en sık algılanan engel "iletişim sorunları" idi. Öğrencilerin BDÖ-24 ortalamasındaki varyansın yaklaşık %42.6'sının BBS-A-Hemşire tarafından açıklandığı belirlenmiştir ($p<0,001$). Hemşirelik öğrencilerin hastaların bireysellikerini destekleme algıları ile bakım davranışı/bakım kalitesi algılarının ortalamanın üzerinde olduğu ve bakım kalitesi algılarının, bireyselleştirilmiş bakım algıları tarafından yordandığı belirlenmiştir.

Anahtar Kelimeler: Bakım davranışları, bakım kalitesi, bireyselleştirilmiş bakım, hemşirelik, öğrenciler.

1. Introduction

Care is not specific to nursing, yet it is a unique concept for nursing and is carried out mostly by nurses (Gül, 2019; Li et al., 2020). Nursing care is defined as "a support relationship encompassing the ethical and legal responsibility of the nurse to identify the care needs of individuals facing physical, psychological, and social health challenges, make decisions, implement and evaluate care plans, and help individuals achieve a level of self-sufficiency in meeting their own needs" (Göçmen-Baykara, 2014). The need to improve the quality of care is increasingly recognized in today's dynamic and complex healthcare environment (Mårtensson et al., 2024). Individualized care is considered a criterion for evaluating the quality of care, as it significantly improves patient satisfaction and outcomes (Guven Ozdemir & Sendir, 2020; Labrague et al., 2020; Toru, 2020). Therefore, governments and health policies indicate the necessity of individual care in nursing, including nursing education (Guven Ozdemir & Sendir, 2020). Quality of care refers to how effectively health services enhance the desired health outcomes for individuals (World Health Organization, 2024).

Individualized nursing care includes respecting the individuality of patients, understanding the patients as unique human beings, providing holistic care, focusing on the individual's care needs, supporting the patient's independence, planning the care with the patient, and approaching each patient equally and fairly (Eklund, et al., 2019; Nilsson et al., 2019). In addition to providing care in line with patients' characteristics and needs, individualized care also includes patients' perceptions about the nurse's care approaches and expression of them through feedback (Toru, 2020). Nurses need professional experience to improve their individualized care practices. In addition to personal characteristics such as conscience, sense of responsibility, and self-sacrifice, nurses' perceptions, beliefs, and attitudes about their professional responsibilities affect and guide their care behaviors (Labrague et al., 2020; Salimi & Azimpour, 2013). Nurses need to understand the individualized care approach and become aware of their perceptions of individualized care practices to provide qualified care (Acaroğlu et al., 2011). However, for various reasons, the importance of individualized care is not adequately understood and cannot be applied by nurses, who encounter obstacles in providing individual care (Karayurt et al., 2018; Taylan et al., 2021).

Nurses' competence in demonstrating caring behavior affects patient health outcomes by influencing how patients experience and participate in their care (Mårtensson et al., 2024). Nursing education contributes to students' positive care behaviors and individualized care in their professional lives by helping them to create positive perceptions about individualized care and to develop experience (Guven Ozdemir & Sendir, 2020). A conscious focus on learning to care allows students to reflect on their caring behaviors, which supports the development of their professional identities (Mårtensson et al., 2024). The literature includes studies on nursing students' perceptions of care behaviors (Bayraktar et al., 2023; Dığın & Özkan, 2021; Orhan & Erkoç, 2024) and individualized care (Can, 2021; Demirel & Turan, 2021). However, to our knowledge, no studies have investigated the relationship between these concepts in nursing students. For this reason, examining the relationship between the perception of individualized care and care behaviors is believed to provide important information to evaluate and improve the quality of care, and patient outcomes. This study aims to determine nursing students' perceptions of individualized care and quality of care and examine the relationship between them.

The study questions are as follows:

1- What are nursing students' perceptions of the quality of nursing care?

2- What are the nursing students' perceptions of individualized care?

3- Is there a statistically significant difference between the perceptions of individualized care and the quality of nursing according to the students' socio-demographic and care-related characteristics?

4- Is there a relationship between nursing students' perceptions of individualized care and the quality of nursing care?

2. Materials and Methods

2.1. Study Design and Setting

This single-center descriptive cross-sectional study was conducted in the spring semester of the 2021-2022 academic year in the nursing department of a state university in southern Turkey. The study was consistent with the strengthening of the reporting of observational studies in epidemiology (STROBE) statement.

2.2. Study Population and Sample

The study population comprised 2nd, 3rd, and 4th-year nursing students (N=416). First-year students were omitted because their clinical practice was inadequate. The study sample consisted of students who agreed to participate in the study.

The necessary sample size was determined using G* Power 3.1.9.7, with a significance level of 0.05, a power of 95%, and a medium effect size of 0.15 for one predictor. Hence, the sample size required for linear regression was determined as 89 students (Cohen, 1988; Faul et al., 2007). A total of 285 students agreed to participate in the study. However, ten students were excluded due to outliers, resulting in a final sample of 275 students in the analysis. Post hoc power analysis was conducted with an effect size f^2 of 0.742, an α error probability of 0.05, a total sample size of 275, and one predictor. The study power was 99%, indicating a high probability of obtaining statistically significant results given the specified effect size.

2.3. Instruments

The “Student Information Form”, the “Caring Behaviors Inventory-24 (CBI-24)” and the “Individualized Care Scale-A Nurse (ICS-A- Nurse)” were used.

The Student Information Form: The form, created by researcher using literature (Can, 2021; Demirel &Turan, 2021), includes questions evaluating students’ age, gender, year of study, choosing a nursing career willingly, providing individualized care, encountering obstacles in providing individualized care, and previous hospital inpatient treatment.

The Caring Behaviors Inventory-24 (CBI-24): It was developed by Wolf et al. (1994) and structured by Wu et al. (2006). Its Turkish validity and reliability were conducted by Kurşun and Kanan (2012) to evaluate the quality of nursing care. CBI-24 is responded to on a 6-point Likert scale and consists of 24 items and 4 sub-scales including “assurance”, “knowledge and skill”, “respectfulness” and “connectedness”. There are no reverse items. Higher scores obtained from the scale and sub-scales indicate higher levels of perceived quality of care. The total scale score and its sub-scale scores range from 1 to 6 points, and scores are derived by summing the item scores and dividing the total by the number of items. Cronbach’s alpha of the scale was 0.97 (Kurşun & Kanan, 2012). In this study, Cronbach's alpha values were found to be 0.93 for the total scale, 0.88 for the “Assurance” sub-dimension, 0.80 for the “Knowledge and Skill” sub-dimension, 0.78 for the “Respectfulness” sub-dimension, and 0.79 for the “Connectedness” sub-dimension.

Individualized Care Scale-Nurse version (ICS-Nurse version): The scale was developed by Suhonen et al. (2010) to assess nurses' views on individualized care in the healthcare setting. The scale was adapted into Turkish by Şendir et al. (2010). The scale consists of two sections, ICS-A and ICS-B. The scale evaluates nurses’ perceptions of supporting the individuality of patients (ICS-A-Nurse) and individualizing patients’ care (ICS-B-Nurse). This study used the ICS-A-Nurse to evaluate nursing students’ perceptions of supporting the individuality of patients during their care. For ICS-A-Nurse, nursing students were asked to fill in their general attitudes regarding how they support patients' individuality in their care practices in general. The scale consists of 17 items and 3 sub-scales including “Clinical situation (items 1-7)”, “Personal life situation (items 8-11)”, and “Decisional control (items 12-17)”. The scale is a 5-point Likert-type. The scores that can be obtained in each item and sub-dimensions of the ICS-A-nurse scale vary from 1 to 5. High scores on the ICS-A-Nurse scale indicate a high perception of supporting patients' individuality during nursing care. Suhonen et

al. (2010) found the Cronbach alpha coefficient of the scale to be 0.88, and in the validity and reliability study conducted by Şendir et al. (2010), it was found to be 0.91. In this study, Cronbach's alpha value was 0.88 for the ICS-A-Nurse total. Cronbach's alpha values of the sub-dimensions of the ICS-A-Nurse version scale were found to be 0.85 for the "Clinical situation" sub-dimension, 0.69 for the "Personal life situation" sub-dimension, and 0.78 for the "Decision control" sub-dimension.

2.4. Data Collection

Data were gathered through online methods from April to May 2022. Students filled out the data collection forms through Google Forms. Before the online forms were responded to, the students were asked if they agreed to participate. The students saw the survey questions after they marked the option “Yes”. The online survey link was first sent to the representative students of each class via WhatsApp. Then the online forms were sent to the students by the representative students of each class.

2.5. Data Analysis

Data were analyzed using the SPSS 22.0 program. There was no missing data. Ten (n=10) outliers that deviated significantly from the sample were identified and removed from the analysis. Skewness and kurtosis values were assessed to check for normal distribution of the data, with results ranging from -1.5 to +1.5, suggesting that the data followed a normal distribution. The study used descriptive statistics. The Independent Samples t-test and ANOVA were used to compare the means of independent groups. Pearson correlation was used to analyze the correlation between two continuous variables. A simple linear regression analysis was used to assess the relationship between independent and dependent variables. The statistical significance level was accepted $p<0.05$.

2.6. Ethical Considerations

The study was conducted following the principles of the Declaration of Helsinki. Ethics committee approval was obtained from Hatay Mustafa Kemal University Non-Interventional Clinical Research Ethics Committee to conduct the study (Date: 14.04.2022, Number of meetings: 04 and Decision No: 34). Additionally, institutional permission was obtained from the faculty’s dean’s office. Informed consent was obtained from participants through an online written format. The explanatory text at the beginning of the online questionnaire informed all the students that participation in the study was voluntary and their participation would not affect their course assessments. If the students agreed to participate, they were asked to indicate their consent by selecting the option, “I voluntarily agree to participate in the study”. All data were collected anonymously.

3. Results

The students’ average age was 21.4±2.40 (min-max=18-36) years, 40.4% were second-year students, and 74.9% were female. Besides, 42.9% chose the nursing profession partly voluntarily, 67.3% thought they gave individualized care, 85.5% encountered obstacles while providing individualized care, and 65.1% reportedly did not receive inpatient treatment (Table 1).

Table 1. Distribution of students' characteristics and the relationship between characteristics and CBI-24 and ICS-A scores (n = 275)

Characteristics			**CBI-24**		**ICS-A**	
Age Mean ± SD: 21.4 ± 2.40 (min-max=18-36)	**n**	**%**	**Mean**	**SD**	**Mean**	**SD**
Study year						
2nd year	111	40.4	4.99	0.59	4.08	0.54
3rd year	86	31.3	5.03	0.58	4.14	0.53
4th year	78	28.4	5.01	0.59	4.16	0.53
Test			F=0.130		F=0.641	
p			*p*=0.878		*p*=0.527	
Gender						
Female	206	74.9	5.03	0.56	4.13	0.53
Male	69	25.1	4.93	0.64	4.10	0.56
Test			t=1.227		t=0.326	
p			*p*=0.221		*p*=0.745	
Choosing the nursing profession willingly						
Yes	111	40.4	5.06	0.62	4.18	0.56
No	46	16.7	4.96	0.55	4.07	0.54
Partially	118	42.9	4.97	0.56	4.08	0.50
Test			F=0.929		F=1.195	
p			*p*=0.396		*p*=0.304	
Thinking that they gave individualized care						
Yes	185	67.3	5.10	0.58	4.17	0.55
No	90	32.7	4.82	0.54	4.02	0.49
Test			t=3.835		t=2.101	
p			***p*=0.000***		***p*= 0.037***	
Encountering obstacles in providing individualized care						
Yes	235	85.5	4.98	0.56	4.10	0.53
No	40	14.5	5.13	0.67	4.25	0.53
Test			t=-1.303		t=-1.665	
p			*p*=0.199		*p*=0.097	
Having received inpatient treatment in a hospital						
Yes	96	34.9	4.97	0.62	4.09	0.53
No	179	65.1	5.03	0.56	4.14	0.54
Test			t=-0.739		*t*=-0.700	
p			*p*=0.461		*p*=0.484	

*CBI-24: Caring Behaviors Inventory-24; ICS-A: Individualized Care Scale-A; t: Independent Sample t-Test; F: One-way ANOVA; p<0.05

The obstacles faced by students who stated that they encountered obstacles in providing individualized care (n=235) are given in Figure 1. Communication problems (64.2%), lack of time (50.2%), and patient and patient relative behaviors (44.6%) were the three most frequently stated obstacles by the students who encountered obstacles in providing individualized care.

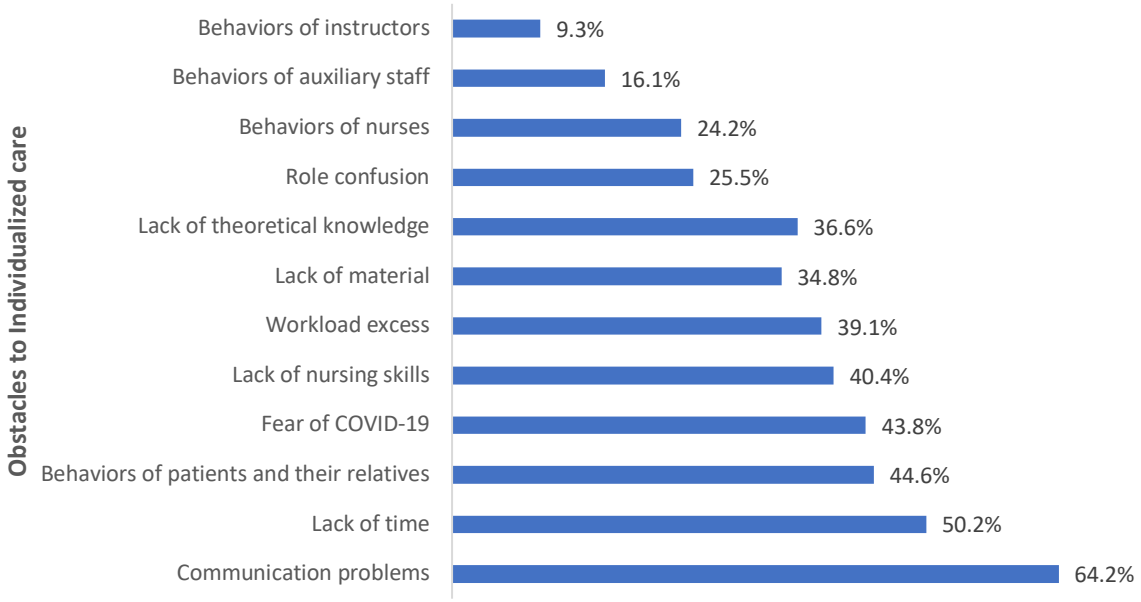

Figure 1. Distribution of perceived obstacles to individualized care (n=235)

The CBI-24 total mean score was 5.01 ± 0.58; the "assurance", "knowledge and skill", "respectfulness " and "connectedness" sub-scale mean scores were determined as 5.12 ± 0.64, 5.00 ± 0.69, 4.99 ± 0.62, and 4.85 ± 0.71, respectively. The students' ICS-A total mean score was 4.12 ± 0.53 and the ICS-A sub-scale mean score was 4.29 ± 0.59 for "clinical situation", 3.83 ± 0.76 for "personal life situation" and 4.12 ± 0.61 for "decisional control" (Table 2).

Table 2. Distribution of CBI-24 and ICS-A-Nurse sub-scale mean scores (n=275)

Scales and sub-scales	Min.-Max.	Mean ± SD
CBI-24		
Assurance	3.00-6.00	5.12±0.64
Knowledge and Skill	3.00-6.00	5.00±0.69
Respectfulness	2.83-6.00	4.99±0.62
Connectedness	3.00-6.00	4.85±0.71
Total	3.42-6.00	5.01±0.58
ICS-A-Nurse		
Clinical situation	1.71-5.00	4.29±0.59
Personal life situation	1.50-5.00	3.83±0.76
Decisional control	2.00-5.00	4.12±0.61
Total	2.12-5.00	4.12±0.53

*CBI-24, Caring Behaviors Inventory-24; ICS-A-Nurse, Individualized Care Scale-A-Nurse version

There was a statistically significant difference between the students' CBI-24 and ICS-A total mean scores and thoughts about providing individualized care ($p<0.05$). The CBI-24 and ICS-A total mean scores were higher in the students who thought that they gave individualized care (Table 1). No significant differences were found between the scale mean scores in terms of the other examined characteristics ($p>0.05$) (Table 1).

There was a positive and statistically significant relationship between CBI-24 and ICS-A total mean scores ($r=0.652$, $p<0.01$) (Table 3).

Table 3. Correlation between CBI-24 and ICS-A-Nurse means scores (n=275)

		ICS-A
CBI-24	r	0.652*
	p	0.000

CBI-24, Caring Behaviors Inventory-24; ICS-A, Individualized Care Scale-A-Nurse; r: Pearson Correlation
*Correlation is significant at the 0.01 level (2-tailed).

A simple linear regression analysis was conducted to investigate the effect of the perception of individualized care on the perception of quality of care. While the perception of care behaviors was set as a dependent variable, the perception of individualized care was set as an independent variable. The linear regression model results were significant ($F(1,273)=202.379$, $p<0.001$). ICS-A explains approximately 42.6% of the variance in CBI-24 ($R^2=0.426$). ICS-A significantly predicted CBI-24, $B=0.710$, $t(273)=14.226$, $p<0.001$. This result reveals that, on average, a one-unit increase in ICS-A increases the value of CBI-24 by 0.710 units (Table 4).

Table 4. Linear regression results for perception of individualized care predicting perception of care behaviors

Variable	***B***	***SE***	**95.00% CI**	**β**	***t***	***p***
(Intercept)	2.081	0.208	[1.672, 2.490]	-	10.015	0.000
ICS-A	0.710	0.050	[0.612, 0.809]	0.652	14.226	< 0.001
Unstandardized Regression Equation: CBI-24= 2.081+ 0.710*ICS-A						

4. Discussion

This study determined nursing students' perceptions of individualized care and quality of care and the relationship between them. Nursing students' perceptions of individualized care and quality of care were above average. The most frequently perceived barrier to providing individualized care by nursing students was communication problems. Nursing students who thought they provided individualized care had higher perceptions of caring behaviors and individualized care. The increase in the perception of individualized care also increased the perception of quality of care, and the perception of individualized care positively predicted the level of perceived quality of care.

Considering that the highest score that can be obtained from the CBI-24 is "6", the students' CBI-24 mean score was found to be above average (5.01 ± 0.58) in this study, indicating a desired level. This finding shows that the nursing students' perceptions of care behaviors are positive, and therefore their perception of nursing quality of care is positive and high. Previous studies have also indicated high levels of care behaviors among nursing students (Bayraktar et al., 2023; Dığın & Özkan, 2021; Orhan & Erkoç, 2024). Similarly, in a study conducted with nurses, it was determined that caring behaviors were at a high level (Aydınlı et al., 2024). In the study conducted by Allari et al. (2023) to investigate the perceptions of undergraduate nursing students in different countries in the Middle East regarding caring, a high level of caring was identified among nursing students, and it was concluded that this finding reflected the inclusion of caring behavior in the nursing curriculum. Some studies determined moderate levels of care behaviors. Albayrak and Uzdil (2024) reported the CBI-24 mean score as 3.31 ± 0.55, and the perceived quality of care was determined to be at a medium level. Alquwez et al. (2021) reported the care behaviors exhibited by Saudi nursing students as moderate. This difference may be related to the Arabic version of the CBI-16 used in their study. Students' perception of high-quality care may demonstrate their professional competence and the effectiveness of education programs and is a hopeful indicator that quality of care will be provided in the future.

The students' ICS-A mean scores were above average with 4.12 ± 0.53, which is consistent with previous studies conducted with nursing students and nurses (Can, 2021; Demirel & Turan, 2021; Doğan et al., 2019; Korucu et al., 2021). Considering the lowest and highest scores that can be obtained from the scale, it can be

said that the student's perception of supporting individualized care is at a good level. In the study conducted by Demirel and Turan (2021) with senior nursing students, the students' total ICS-A nurse score average was 4.28 ± 0.60 and their perception of individualized care was high. In the study conducted by Çiftçi et al. (2021) with 2nd, 3rd, and 4th year nursing students, students had a high individualized care perception. This finding shows that students had a high level of support for the individuality of patients, and this awareness was gained by the students in the nursing education process. At the same time, the good mean scores obtained from the ICS-A in our study are a desirable finding showing that students are conscious of recognizing and respecting individual differences in care and providing individualized care.

Identifying individualized care obstacles constitutes the first step toward eliminating these obstacles. This study found that students encountered obstacles while trying to give individualized care, and communication problems, lack of time, and patient and patient relative behaviors were the three most frequently cited obstacles. Similarly, studies report that nurses face various obstacles while providing individualized care (Castellà-Creus et al., 2019; Gemuhay et al., 2019; Güner et al., 2020; Karayurt et al., 2018; Li et al., 2020).

This study detected a positive relationship between students' perceptions of supporting patients' individuality and perceived quality of care. The perception of individualized care positively affected students' care behaviors and quality of care. The increase in students' perceptions of supporting patients' individuality also increased their perceived quality of care. Another finding of our study, that nursing students who thought they provided individualized care had higher caring behaviors and perceptions of individualized care, also supports this finding. Similar results were found in Yiğit et al.'s (2024) study with nurses. This finding shows the importance of planning nursing education programs in a structure that emphasizes patient-centered care to students and strengthens individualized care skills to improve the overall quality of care.

Limitations

The study has some limitations. As the study was carried out at a single university, the ability to generalize the findings is limited. The responses of participating students to the scales were based on their self-reports, which could introduce bias due to subjective interpretation.

5. Conclusion

In conclusion, nursing students' perceptions of individualized care and quality of care were high and positive. Nursing students encountered obstacles in providing individualized care in their clinical practice. There was a positive relationship between the perceptions of individualized care and quality of care. Nursing students' perceptions of individualized care affect positively their perceived quality of care. To reinforce nursing students' positive perceptions of individualized care and quality of care, current education programs should be continued and further developed. For this purpose, it is recommended to establish regular feedback mechanisms, provide clinical teaching areas that support individualized care experiences, and ensure that nurse educators act as positive role models, while also considering how to help students better understand these concrete concepts. In addition, nursing education programs should be planned in a structure that emphasizes patient-centered care and strengthens students' individualized care skills for quality care. Based on the most frequently mentioned barriers to individualized care, it is recommended to provide training on communication skills and time management, as well as offering mentorship and guidance to overcome these barriers. This study will highlight the importance of individualized care in nursing education and practice in terms of care quality, thereby contributing to planning efforts aimed at providing quality care.

Author Contribution: İ.K.T: Study Idea (Concept) and Design, Data Collection/Literature Review, Analysis and Interpretation of Data, Preparation of the Article, Approval of the Final Version to be Published.

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