Orem'in Öz-Bakım Modeline Göre Hemşirelik Öğrencilerinin Klinik Yeterlilikleri İle Bakım Verme Rolü Arasındaki İlişki

Relationship Between Clinical Competencies and Nursing Students' Caregiving Role Based on Orem's Self-Care Model

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ÖZ

Amaç: Dahiliye kliniklerinde klinik uygulama yapan son sınıf öğrencilerinin klinik performans yeterlilikleri ile bakım veren rollerine yönelik tutumları arasındaki ilişkiyi belirlemekti.

Yöntem: Mart-Haziran 2022 tarihleri arasında 148 hemşirelik son sınıf öğrencisi ile kesitsel ve korelasyonel bir çalışma yapılmıştır. Veriler, Orem'in Öz Bakım Modeline dayalı İç Hastalıkları Hemşireliği Klinik Uygulaması Bakım Planı Formu, Eğitici Değerlendirme Formu, Klinik Performansta Öz Yeterlik Ölçeği ve Hemşirelerin Bakım Verme Rollerine İlişkin Tutum Ölçeği kullanılarak toplanmıştır. Ölçek puanları arasındaki ilişkinin varlığını değerlendirmek için Pearson korelasyon katsayısı kullanılmıştır. Değişkenler çoklu doğrusal regresyon analizi ile incelenmiştir.

Bulgular: Ölçeklerin alt boyutları arasındaki ilişkiler değerlendirildiğinde tüm alt boyutlar ve toplam puanların birbiriyle zayıftan orta düzeye kadar pozitif yönde ilişkili olduğu belirlenmiştir. Korelasyon katsayılarının anlamlı şekilde 0,277-0,467 arasında değiştiği belirlenmiştir (p<0.01). Regresyon analizi sonuçlarına bakıldığında, ağırlıklı genel not ortalaması ve uygulama alt boyutu puanı ortalamasından oluşan modelin, hemşirenin bakım verici rolünü yerine getirme varyansının %25'ini açıkladığını göstermiştir (Düzeltilmiş R2=0.25, p<0.001).

Sonuç: Bu çalışmada hemşirelik son sınıf öğrencilerinin bakım veren rolünü yerine getirebilmelerinde ağırlıklı not ortalamaları ve uygulama alt boyutundaki klinik yeterliliklerin etkili olduğu belirlendi.

Anahtar Kelimeler: Bakım verici rol, Klinik yeterlik, Hemşirelik, Son sınıf öğrencisi, Orem'in öz bakım modeli.

ABSTRACT

Objective: To determine the correlation between clinical performance competencies and attitudes towards caregiver roles among senior students practicing in internal medicine clinics.

Method: A cross-sectional and correlational study conducted between March and June 2022 with 148 senior nursing students. The data were collected using the Internal Medicine Nursing Clinical Practice Care Plan Form based on Orem's Self-Care Model, the Educator Evaluation Form, the Self-Efficacy in Clinical Performance Scale, and the Attitude Scale for Nurses in Caregiving Roles. For analysis, mean scores, t-test, Pearson's correlation, and linear regression analysis were used.

Results: When the correlation between the scales and their sub-dimensions was evaluated, it was determined that all sub-dimensions and total scores were positively correlated with each other from a weak to a moderate level. It was determined that the correlation coefficients varied statistically between 0.277 and 0.467 (p<0.01). The results of the regression analysis showed that the model consisting of the grade point average and the mean score of implementation explained 25% of the nurse's level of fulfillment of the caregiver role (adjusted R2=0.25, p<0.001).

Conclusion: In this study, it was determined that gender, weighted grade point averages, and clinical competencies in practice affected senior nursing students' ability to fulfill the caregiver role.

Key words: Caregiver role, Clinical competency, Nursing, Senior nursing Student, Orem's self-care model.

1. INTRODUCTION

A successful clinical practice is very important for the development of students' clinical competencies, as it allows nursing students to gain experience and integrate theoretical knowledge into clinical practice. Clinical competencies are acquired in a well-designed and organized clinical learning environment (1,2). The clinical learning environment, which is effective in the development of nursing students' professional identities as well as competencies, is also considered an ideal environment in terms of allowing the integration of clinical competencies into nursing performance and practices (3).

The concept of competence consists of three main categories: behaviorism, trait theory, and holism. Behaviorism is defined as nurses' ability to perform their basic personal skills, while trait theory is expressed as personal characteristics such as knowledge level and critical thinking skills. Holism states that competence consists of elements such as knowledge, skills, attitudes, the ability to think, and values (4,5). While high clinical competencies of students increase self-efficacy, effective communication, professional satisfaction, and professional commitment, a lack of competencies causes psychological problems such as stress, anxiety, and a feeling of failure among students at a high rate (6). Stress or anxiety experienced by students for reasons such as fear of making mistakes or lack of clinical competence reduces their clinical performance (7). Therefore, assessment of students' clinical competencies is described as a difficult and worrying process for educators and mentors (8). Evaluation of clinical competencies includes identifying students' learning needs, planning activities to meet those needs, and having information about students' performance (9).

In particular, the self-confidence of senior students about their clinical competencies may be insufficient. In relation to this, according to a study, most of the students did not feel ready enough for their nursing roles (10). According to another study, 53.9% of the students stated that they commonly plan nursing care in line with the needs of the patient. Therefore, planning of care, which is one of the competencies that is stated to be performed frequently in clinical settings, has taken the fourth place. The fourth place among the competencies stated to be performed occasionally was the management of caring problems (47.4%) (11).

For this reason, it is important for nursing students to determine the needs of patients and plan quality care in line with their competencies. It is known that there is a positive relationship between the competence of nurses and the improvement of the quality of care in clinical settings (12). It is important to use nursing models in clinical practice so that the needs of patients can be determined completely and systematically. The use of nursing models also enables the creation of conceptual frameworks during nursing education, provides guidelines for nursing care, and guides educators during education. One of the most widely used models is Orem's Self-Care Model.

Orem's self-care model can also be used in the education of nursing students to fill the gap between theory and practice. Orem's self-care model is known to increase students' performance levels in areas such as communication, caregiving, and educational skills (13). In a study conducted with nurses, it was stated that the meta-paradigmatic concepts of Orem's self-care model supported the practice of nurses and were effective in the formation of the scientific basis of the profession (14). At this point, in line with Miller's pyramid, senior nursing students, who are the nurses of the future, are expected to complete the cognitive "knows" and "knows

how" steps. Thus, students can successfully reach the "shows" step. In the "shows" step, it is important to evaluate the demonstration of the students. Therefore, in this study, the correlation between students' clinical performance competence and caregiver attitude was investigated by Orem's self-care deficit model.

2. METHOD

Study design and participants

This study was a cross-sectional and correlational study conducted between March and June 2022, to determine the correlation between clinical performance competencies and attitudes towards caregiver roles of senior students practicing in internal medicine clinics. Two hundred and thirty-seven senior nursing students at a nursing faculty in the capital city of Turkey were invited to the study, and the study was completed with 148 students (response rate:62.4%). Since clinical practice and required performance competencies are important parts of nursing education, it was attempted to reach all senior students as much as possible; the sample size was not calculated. The inclusion criteria were being a senior nursing student doing an internship and speaking Turkish fluently. The exclusion criterion of the study was having any contagious, physical, or mental illness that would prevent clinical practice.

Instruments

Internal Medicine Nursing Clinical Practice Care Plan Form: The form consisted of three parts, including the basic characteristics of the patient, the patient's self-care needs (oxygenation, hydration, nutrition, elimination, need for movement and resting, social life, the process of accepting and adapting to physiological changes, reactions to the disease), and the nursing care process based on Orem's self-care model.

Educator Evaluation Form: The form was structured under four sub-dimensions ("assessment," "diagnosis and planning," "implementation," and "evaluation"), taking into account the sub-dimensions in the Self-Efficacy Scale in the Clinical Performance Scale. Each subtitle was evaluated over 25 points, and the sum of the points obtained from the four subtitles constituted the final score of the students. The Internal Medicine Nursing Clinical Practice Care Plan Form, based on Orem's self-care model and filled out by the students for a patient they cared for, was evaluated by two independent researchers, and an educator evaluation form was filled out.

Self-Efficacy in Clinical Performance Scale (SECP): The scale consists of 4 sub-dimensions and 37 items, namely "assessment," "diagnosis and planning," "implementation," and "evaluation." The Cronbach's alpha was 0.96. A higher score means higher self-efficacy in clinical performance (15). The Turkish validity and reliability study was performed by Pozam and Zaybak (2016) (16).

Attitude Scale for Nurses in Caregiving Roles (ASNCR): The scale consists of three sub-dimensions (the nurse's attitudes regarding the role of meeting self-care needs and counseling; the role of protecting the individual and respecting their rights; and the role in the treatment process) and 16 items. The Cronbach's alpha was 0.91. The scores can range from 1 to 5. A higher score means a higher level of fulfillment of the nurse's caregiver role (17).

Data collection

Nursing students were asked to prepare a comprehensive nursing care plan in line with the needs of the patients by using the Internal Medicine Nursing Clinical Practice Care Plan Form, which was structured by the researchers in line with Orem's self-care deficiency model. The nursing care plans were evaluated by two educators independently. Students were given a score out of 100 points by both educators, and the final score of the student from the clinical practice was determined by taking the average of two different scores. The instruments were applied to senior nursing students practicing in internal medicine clinics during their internship practice. Students were divided into six groups, each consisting of approximately 40 people. The rotation period for each group in the clinics was 8 working days. The SECP and ASNCR were administered face-to-face to each student in the groups on the first day of their rotation.

Data analysis

The data were analyzed with IBM SPSS (Statistical Package for the Social Sciences, Chicago, Illinois) 22.0. The frequency and percentage distribution of the gender variable were given. Descriptive statistics for grade point averages, evaluation scores of educators, and scales were calculated. A t-test, Pearson's correlation, and multiple linear regression analysis with backward selection were used for data analysis.

Ethical approval

Ethical approval and written institutional permission were obtained for the study. The Gazi University Ethics Commission (Number:2022-318) approved the study. After informing the students about the purpose and process of the study and obtaining their written consent, the care plan based on Orem's self-care model was explained to the students. The clinical evaluation criteria were shared with the students. Since the students were going to be evaluated independently by two educators, they were asked to indicate their names in the nursing care plan. Students were assured that their names would not be reported in any way. Their answers were only to be used for scientific purposes. The study was carried out according to the Declaration of Helsinki.

3. RESULTS

The study was completed with 148 senior nursing students. Approximately 85% of the students were female. The mean score obtained from the educators was 71.93±5.81 (min: 52.50, max: 87.50).

The mean grade point average of the students was 3.07±0.38 (min:2.10, max:3.92) The mean scores of students' self-efficacy in clinical performance were 85.57±10.16 (min: 53.33, max: 100) for "assessment," 84.48±11.75 (min:42.22, max:100) for "diagnosis and planning," 88.26±9.83 (min:54, max:100) for "implementation," and 85.23±10.99 (min: 50, max: 100) for "evaluation." The mean total score of the SECP was 85.96±9.81 (min:54.32, max:100.00).

The mean scores of the level of nurses' fulfillment of their caregiver roles were 32.28±2.99 (min:24.00, max:35.00) for "attitude about the role of meeting self-care needs and counseling", 18.58±1.53 (min:15.00, max:20.00) for "attitude about the role of protecting the individual and respecting their rights," and 22.42±2.34 (min: 16.00, max: 25.00) for "attitude

about their role in the treatment process." The mean total score of the ASNCR was 73.28±6.28 (min: 59, max: 80.00).

The mean scores of the SECP scale and its sub-dimensions did not differ significantly by gender. The mean scores of the ASNCR and the sub-dimension of "nurse's attitude regarding the role of meeting self-care needs and counseling" were statistically significantly higher in females (p<0.05). Other sub-dimensions did not differ significantly by gender. The mean scores of sub-dimensions and the total score for SECP did not show a statistically significant difference according to the grade point average level of the students (p>0.05). The mean scores of sub-dimensions and the total score for ASNCR were significantly higher in students with a grade point average of 3.00 and above. The mean scores of SECP and ASNCR did not show a statistically significant difference according to the educators' evaluation scores (Table 1).

It was determined that all sub-dimensions and total scores were positively correlated with each other from a weak to a moderate level. It was determined that the correlation coefficients varied statistically between 0.277 and 0.486 (p<0.01) (Table 2).

The results of the regression analysis showed that the model consisting of the grade point average and the mean score of implementation explained 25% of the nurse's level of fulfillment of the caregiver role (Adjusted R2= 0.25, p<0.001). Having a grade point average of 3.00 and above and getting a high score in the sub-dimension of implementation were positively associated with the level of fulfilling the caregiver role of the nurse (p<0.001) (Table 3).

4. DISCUSSION

Determining the clinical competencies of students lays the groundwork for advanced practice nursing interventions provided by nurses who are capable of providing advanced and expanded health services that can provide direct health care services to individuals, families, and communities and affect clinical health service results (18). However, according to a study conducted by Hatzenbuhler and Klein (2019) on graduates, it was stated that many graduates did not feel sufficiently prepared for nursing roles (10). It is known that there is a positive relationship between the competencies of nurses and improving the quality of care (12).

In the current study, it was determined that nursing students' clinical performance self-efficacy scores were high. Similar to the current study, there have been studies (1-3,11,19-24) in the literature showing that nursing students' clinical competence levels were good. In a study, one in every four students was found to be competent in clinical practice (25). In another study, it was determined that approximately 34% perceived the level of clinical competence as good (26). In another study by Bifftu et al. (2016), it was determined that approximately half of the students had a good level of clinical competence (27). In a study conducted by Visiers-Jiménez et al. (2021), it was reported that more than half of the students had a good level of clinical competence (1). However, there have also been studies in which nursing students' clinical competence levels were low (28,29). The inclusion of senior nursing students in the current study may have ensured a good level of clinical competence. Considering that one of the most important components of the perception of clinical competence is mastering clinical knowledge and skills, it is clear that the knowledge and skills of senior students affect their clinical performance competence. Studies have shown that especially senior students have better

Table 1. Scale Scores According to Independent Variables (n=148)

Scales and sub-dimensions	Gender		Grade Point Average		Educators' Evaluation Score	
	Female	Male	< 3.00	3.00 and above	< 72.00	72.00 and above
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
SECP	85.61 (9.69)	87.83 (10.46)	85.09 (10.21)	86.57 (9.53)	84.27 (10.35)	87.26 (9.22)
Assessment	85.23 (10.14)	87.46 (10.28)	84.67 (9.94)	86.21 (10.32)	83.92 (10.13)	86.84 (10.05)
Diagnosing and planning	83.94 (11.71)	87.39 (11.79)	83.92 (11.70)	84.88 (11.84)	82.52 (12.83)	85.99 (10.68)
Implementation	88.02 (9.83)	89.57 (9.93)	86.92 (10.62)	89.21 (9.18)	86.81 (10.83)	89.37 (8.89)
Evaluation	85.03 (10.90)	86.30 (11.68)	84.67 (11.49)	85.61 (10.69)	83.33 (11.89)	86.67 (10.09)
ASNCR	**73.74 (6.08)***	70.78 (6.90)	71.54 (6.94)	**74.49 (5.49)****	72.55 (6.91)	73.83 (5.74)
Nurses' Attitudes Regarding the Role of Meeting Self-Care Needs and Counseling	**32.54 (2.84)***	30.83 (3.42)	31.46 (3.39)	**32.85 (2.54)****	31.83 (3.29)	32.62 (2.70)
Nurses' Attitudes Regarding the Role of Protecting the Individual and Respecting Their Rights	18.65 (1.50)	18.22 (1.62)	18.18 (1.68)	**18.86 (1.35)***	18.42 (1.67)	18.70 (1.40)
Nurses' Attitudes Regarding Their Role in the Treatment Process	22.54 (2.29)	21.74 (2.51)	21.90 (2.57)	**22.78 (2.10)***	22.29 (2.47)	22.51 (2.25)

*p<0.05, **p<0.01

Table 2. The Correlation Between Scales And Sub-Dimensions (n=148)

	Nurses' Attitudes Regarding the Role of Meeting Self-Care Needs and Counseling	Nurses' Attitudes Regarding the Role of Protecting the Individual and Respecting Their Rights	Nurses' Attitudes Regarding Their Role in the Treatment Process	Total score of ASNCR
Assessment	**0.418***	**0.434***	**0.318***	**0.423***
Diagnosing and planning	**0.358***	**0.370***	**0.307***	**0.375***
Implementation	**0.467***	**0.486***	**0.331***	**0.463***
Evaluation	**0.384***	**0.380***	**0.277***	**0.378***
Total score of SECP	**0.441***	**0.455***	**0.336***	**0.446***

*p<0.01

Table 3. Factors Associated with the Nurses' Level of Fulfillment of the Caregiver Role (n=148)

Variables	B	β	p	Variance
Grade Point Average (ref: <3.00)	2.245 (0.417-4.073)	.177	<0.05	Adjusted R^2=0.25
Mean scores of "implementation"	.282 (.191-.374)	.444	<0.001	F=23.495 p<0.001

clinical competency levels (1,19,23,25). In the study conducted by Şahin et al. (2021), it was stated that as the academic level of students increased, their clinical competency levels in areas such as integration of care skills, leadership in health services, professional development, and coping with problems also increased (24). According to the study conducted by Charette et al. (2020), it was determined that the competence levels of new graduate nurses were at a good or sufficient level (20). It was determined that the evidence-based practice competence perceived by nursing students did not differ significantly according to academic level in the study by Labrague et al. (2019) (30).

Additionally, in the current study, it was determined that the clinical competency of nursing students did not show any significant change according to gender, grade point average, or clinical evaluation score given by educators. In another study conducted by Albagawi et al. (2019), it was determined that there was no significant relationship between the gender of senior students and their clinical competence level (19). Unlike the current study, in the study conducted by Labrague et al. (2019), clinical competency levels differed significantly according to gender, and the perception of evidence-based practice competence was higher in female students (30). In the current study, the fact that clinical competence did not show a significant difference according to gender suggested that male and female students chose the profession with pleasure, were satisfied with the theoretical and clinical practice, male students did not stay behind in the profession contrary to popular belief, and both genders were willing to provide care and treatment. In a study conducted by Yu et al. (2021), it was stated that the model containing professional interest constituted 36.1% of the variance of students' clinical competence. It has been determined that the clinical competence of senior students who were interested in the nursing profession, who willingly chose the nursing profession, and who were eager to work as nurses was higher (2). The fact that clinical competence did not show a significant difference according to the GPA or the educators' evaluation score led to the idea that students' perception of competence was related to their internal motivation and positive perspective on the profession rather than academic success. In one study, the majority of nursing students reported that their performance in clinical practice was positively impacted by effective counseling and evaluation (7).

In the current study, it was determined that the area in which the students' clinical proficiency levels were the best was nursing implementation, and the area they were the lowest in was making nursing diagnoses and planning nursing interventions. When compared to studies in the literature, it has been seen that the areas in which students' clinical competence was good or low differ from each other. In the studies, the competency areas generally based on Benner's theory were helping, teaching/leading, diagnostic functions, managing situations, therapeutic interventions, ensuring quality, and job roles. Accordingly, in one study, it was determined that the highest competencies were in helping and managing situations, and the lowest competencies were in therapeutic interventions and ensuring quality (23). The lowest competency was in helping, and the highest competency was in job role areas in another study (11). In addition, the fact that students stated that they felt better due to successful nursing practices or therapeutic interventions (11) was similar to the good level of competencies in nursing implementation in the current study. Although the students' competency in diagnosing and planning interventions in the current study was low, in the study conducted by Notarnicola et al. (2018), more than half of the students stated that they frequently planned nursing care in

line with the patient's needs (11). In the study conducted by Jamshidi et al. (2016), it was determined that the lowest competency was holistic approach and the highest competency was practice ethics (25). The increase in students' competency levels will also increase their self-confidence in patient care and will enable them to pay more attention to the care behavior they need to perform. According to a study, it was determined that the confidence of nursing students in understanding patients and their willingness to choose the profession significantly differentiated the caregiving role of the students (31). In addition, in the study conducted by Notarnicola et al. (2018), management of care problems ranked fourth among the competencies stated to be applied by students occasionally (11).

In our study, the mean scores the students received from the total and sub-dimensions of the ASNCR show that they have positive attitudes. Similar results were obtained in the study where the relationship between the competencies of senior nursing students and their attitudes towards their caregiving roles was evaluated (32). It can be said that nursing students, especially in their senior years, are more ready to fulfill their caring roles, as in all nursing roles.

In our study, the mean scores of the ASNCR and the sub-dimension of "nurses' attitude regarding the role of meeting self-care needs and counseling" were statistically significantly higher in females. Nursing students' attitudes towards care behavior are affected by gender and the responsibilities brought by gender (33).

In our study, the mean scores of sub-dimensions and the total score for ASNCR were found to be statistically significantly higher in students with a grade point average of 3.00 and above. Grade point averages are used as a criterion and an indicator of students' academic success. Academic success in nursing education, which includes clinical and theoretical education, can be associated with the achievement of the purpose of the caregiving role, which is the basis of education (34). However, it is thought that grade point average should not be the only criterion for students' professional qualifications or the adequacy of their professional roles.

In our study, the results of the regression analysis showed that the model consisting of the grade point average (GPA) and the mean score of implementation explained 25% of the nurses' level of fulfillment of the caregiver role. In a study evaluating the proficiency of nursing students in evidence-based practices and the factors affecting them, it was determined that the GPA was a significant variable (35). Senior nursing students must be prepared to enter the practice environment, ready to competently care for patients. For this reason, clinical competence always appears as an area in which students want to improve themselves (25). In fact, in our study, the fact that the GPA was 3.00 and above and the high score from the practice sub-dimension was found to be positively related to the level of the nurse fulfilling the role of caregiver is an explanation of this situation.

According to the results of the current study, it is clear that Orem's self-care model has an impact on students' clinical performance competencies and positive attitudes towards their caregiver roles. Orem's self-care model reduces healthcare costs, improves quality of care, and improves patient outcomes. Therefore, Orem's self-care model can be used in the education of students to fill the gap between theory and practice. According to the study conducted by Malekzadeh et al. (2018), it was determined that Orem's self-care model increased students' communication, providing care, and educational skills (13).

There are some limitations to the study. Considering the study results, it should be noted that the clinical competency evaluation of students may be inconsistent if they fail in clinical practice. Since the answers given to the scale depend on the students' self-assessment responses, there may be students' bias or selective perception regarding its appropriate implementation.

5. CONCLUSION

In line with the results obtained in our study, it was determined that gender, grade point average, and practical proficiency of senior nursing students are important in performing their caregiving roles. For this reason, plans should be made in the nursing education curriculum to increase students' course success and their proficiency in practice. Additionally, it may be recommended that senior nursing students study more about their clinical competencies and caregiving roles.

Ethical Consideration of the Study

Ethical approval and written institutional permission were obtained for the study. The Gazi University Ethics Commission (Number:2022-318) approved the study.

Conflict of interest statement

None.

Funding

None.

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