



## The relationship between the professional values and care behaviors of surgical nurses in Turkey

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### ABSTRACT

**Introduction and aim.** The professional values and the care behaviors of surgical nurse's play an important role in providing quality patient care and increasing patient satisfaction. The aim of this study was evaluated the relationship between the professional values and care behaviors of surgical nurses.

**Material and methods.** This descriptive and correlational study consisted of 245 surgical nurses working in Turkey. Data were collected using a Personal Information Form, the Nurses Professional Values Scale, and the Caring Behaviors Inventory-24.

**Results.** The NPVS total mean score of the surgical nurses was 118.26. The CBI-24 total mean score of the surgical nurses was 5.25. The nurses obtained high mean scores in both the Nurses Professional Values Scale and subscales, and the Caring Behavior Inventory-24 and subscales. A weak, positive and significant relationship was found between the professional values and care behaviors of the surgical nurses ( $p < 0.001$ ). Both the individual and professional characteristics of the surgical nurses affected their perceptions of professional values and care behaviors ( $p < 0.05$ ).

**Conclusion.** The study showed that they had high perceptions of professional values and caring behaviors and adopted at most human dignity from professional values. Personal and organizational activities should be carried out to improve the professional values of surgical nurses and have them internalize care behaviors.

**Keywords.** care behaviors, professional values, surgical nursing

### Introduction

Nursing is an integral part of healthcare, contributing to both protection and improvement of the health of healthy, sick and disabled individuals of all ages, families and societies, as well as finding solutions for their health issues.<sup>1,2</sup> Professionalism plays an important role in having nurses perform these functions.<sup>3</sup> Professionalism is defined as a set of attitudes and behaviors considered suitable for a particular profession.<sup>4</sup> Professionalism develops and is shaped through individual values and professional trainings received over time.<sup>5</sup> Professional values are the core element of a profession, which is important for strengthening one's professional identity

and performance.<sup>4,6,7</sup> Professionalism requires a high level of education, caring for the work done, motivation with the desire to help others, organization, having ethical principles, taking responsibility and decision-making abilities.<sup>4,8</sup>

It is important to better know and understand the professional values of nurses who constitute the largest working group in the healthcare system.<sup>7</sup> In this context, the American Nurses Association (ANA) and the International Nurses Association (ICN) have identified seven core values in nursing: altruism, aesthetics, equality, freedom, human dignity, justice and truth, which constitute the basis of the professional values

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of nurses.<sup>9,10</sup> Today, globalization, migration, nursing insufficiency, new diseases, aging population and demand for high quality care are complex issues that cause ethical problems for nurses.<sup>7</sup> Professional values play an important role for nurses in advocating social behaviors and attitudes and making decisions in cases of ethical dilemmas.<sup>6,10</sup>

The care provided by surgical nurses constitutes the largest part of healthcare services provided to surgical patients.<sup>11</sup> Surgical branches play an important role in hospitals. Many patients with different diseases may need to have surgery. In such cases, patients experience emotions that can negatively affect their treatment. Surgical nurses' awareness of these conditions and care behaviors help patients to recover easily.<sup>12</sup> Care behaviors include actions to ensure the well-being of sick individuals, such as sensitivity, relaxation, careful listening, honesty and acceptance without judgment.<sup>11</sup> The care behaviors of surgical nurses may be affected by perceptions and individual/cultural characteristics of both nurses and patients, disease diagnosis, institutional structure and nursing workload. Their care behaviors may also be affected by the methods they use in caring for different patients, lack of time and support and personal characteristics such as conscience, religious belief system, personal philosophy, sense of responsibility and sacrifice.<sup>11,13,14</sup> Surgical nurses are healthcare professionals who are in contact with patients undergoing surgery for the longest time. Therefore, their care behaviors play an important role in providing quality patient care and increasing patient satisfaction.<sup>15,16</sup> Surgical nurses are the health professionals who have the longest contact with patients who have had surgery. Therefore, care behaviors play an important role in providing quality patient care and increasing patient satisfaction.<sup>15,16</sup> There are few studies examining the relationship between nurses' professional values and care behaviors. Most of the studies have been conducted to determine the professional values or care behaviors of nursing students and nurses working outside of surgical clinics. However, surgical nurses play an important role in the diagnosis and treatment process. Therefore, this study was carried out to determine the relationship between the professional values and care behaviors of surgical nurses in Turkey.

## Aim

This study was conducted to determine the relationship between the professional values and care behaviors of surgical nurses in Turkey.

## Material and methods

### *Ethical approval*

Ethical approval was obtained from the Human Research Ethics Committee of Zonguldak Bulent Ecevit

University (decision no:373, decision date: 29.05.2018) and an institutional permission from the hospitals; Zonguldak Bulent Ecevit University Health Practice and Research Hospital (decision no: 53137, decision date: 08.11.2018) Zonguldak provincial directorate of health (decision no: 39330677-799, decision date: 21.02.2019). Informed consents were obtained from the surgical nurses who participated in the study, after they were informed about the purpose and content of the study and the use of data only for scientific purposes. The nurses were told that they could leave the study at any time. Their identifying information was kept confidential.

### *Design and sample*

This descriptive and correlational study was conducted with surgical nurses from five public hospitals and a university hospital that have a service score above 90 in Turkey and serve in accordance with the Health Quality Standards. According to the health statistics, 227.292 nurses work in Turkey.<sup>17</sup> However, there is no statistical data on the number of surgical nurses working in Turkey. The sample calculations made with Power = 0.80,  $\beta = 0.05$  and  $\alpha = 0.05$ , the minimum number of people to be included was determined as 216. The sample consisted of 245 surgical nurses who could speak and write in Turkish, had no communication problems, were actively on duty and agreed to participate in the study. No sample selection was made in the study, and maternity leave, annual leave with report, etc. 40 nurses who did not work for reasons and 55 nurses who did not agree to participate in the study were not included in the sample.

### *Instruments*

The data were collected using a Personal Information Form, the Nurses Professional Values Scale (NPVS) and the Caring Behaviors Inventory-24 (CBI-24).

*Personal Information Form:* This form consisted of 17 closed-ended questions about the nurses' introductory information.<sup>18,19</sup>

*Nurses Professional Values Scale (NPVS):* This scale was first developed by Weis and Schank.<sup>5</sup> This is a five-point Likert-type scale with 44 items and five subscales. Its Turkish validity and reliability study was performed by Orak and Alpar.<sup>10</sup> The scale has two Turkish versions, where one with 44 items is used to measure the perspective of nurses on ethical rules, and one with 33 items is used to examine the professional values of nurses. The 31-item Turkish version of the scale was used in this study. The total scale score varies between 31 and 155. High scores in the scale suggest that nurses attach more importance to professional values.<sup>10</sup> The internal consistency of the scale (Cronbach's alpha) was reported as 0.95 for the entire scale, and it ranged between 0.65 and 0.87 for its subscales.<sup>10</sup>

*Caring Behaviors Inventory-24 (CBI-24)*: The scale was first developed by Wu et al. and is the short form of the Caring Behaviors Inventory-42.<sup>20</sup> Its Turkish validity and reliability study was conducted by Kurşun and Kanan.<sup>21</sup> It is used to evaluate the nursing care process. This 24-item scale consists of four subscales: assurance, knowledge and skills, respectfulness and connectedness. The subscale scores vary between 1 and 6 points. The internal consistency of the scale (Cronbach's alpha) for both patients and nurses was reported as 0.96 for the entire scale, and it ranged between 0.82 and 0.92 for its subscales.<sup>21</sup>

### Data collection

The data were collected between November 30, 2018 and February 28, 2019. The nurses were asked to fill out the data collection tools in person, when appropriate. While the nurses were filling out the data collection tools, the researcher waited in the nurse room for answering their possible questions. It lasted around 15-20 minutes to complete the data collection tools.

### Data analysis

The data were analyzed using the Statistical Package for the Social Sciences 22.0 (SPSS, IBM, Armonk, New York, United States). Descriptive statistics including frequency, percentage and mean-standard deviation were used to evaluate the nurses' sociodemographic data obtained from their personal information forms. Data distribution was assessed using the Kolmogorov-Smirnov test. The Nonparametric Mann Whitney U test and Kruskal Wallis test were used to analyze the non-normally distributed data. Pearson's correlation analysis was used to examine the relationship between the total mean scores of two scales with normal distribution. A p-value smaller than 0.05 was considered statistically significant.

## Results

### The characteristics of surgical nurses

The mean age of the surgical nurses was  $33.63 \pm 7.53$  years, 82.9% of them were female, 68.2% had bachelor's degrees. Additionally, 22.9% worked at emergency surgery units, and 17.1% worked at general surgery services. Approximately half of them (47.8%) had a total work experience of 11 years or longer. More specifically, 35.9% of the nurses had a work experience of 3 years or shorter, and 34.7% had an experience of 10 years or above at surgical units. Moreover, 71.4% served as clinical nurses. Of those at the surgical unit, 53.5% cared for 11 or more patients per day.

Additionally, 27.3% of the nurses were satisfied with their profession. Among the participants, 44.9% chose the profession of nursing willingly, and 35.1% were members of a professional association. Moreover, 57.1% had ethics training.

**Table 1.** Characteristics of surgical nurses

Characteristics		n (%) or mean (SD)
Age		33.63 (7.53)
Gender	Female	203 (82.9)
	Male	42 (17.1)
Educational level	Health vocational high school	23 (9.4)
	Associate degree	37 (15.1)
	Bachelor degree	167 (68.2)
	Master degree	18 (7.3)
Department	General surgery	42 (17.1)
	Operating room	26 (10.6)
	Orthopedics and traumatology	20 (8.2)
	Neurosurgery	12 (4.9)
	Surgery intensive care unit	25 (10.2)
	Coronary surgery	11 (4.5)
	Thoracic surgery	11 (4.5)
	Emergency surgery	56 (22.9)
	Plastic and reconstructive surgery	6 (2.4)
	Eye surgery	3 (1.2)
	Urology	19 (7.8)
	Otolaryngology-head and neck surgery	9 (3.7)
Pediatric surgery	5 (2)	
Working experience (year)	≤5	70 (28.6)
	6-10	58 (23.7)
	11 ≤	117 (47.8)
Working experience in surgical units (year)	≤3	88 (35.9)
	4-6	39 (15.9)
	7-9	33 (13.5)
	10 ≤	85 (34.7)
Task	Clinical nurse	175 (71.4)
	Operating room nurse	24 (9.8)
	Intensive care unit nurse	33 (13.5)
	Other (administration etc)	13 (5.3)
Working hour (weekly)	≤40	11 (4.5)
	40-48	144 (58.8)
	49 ≤	90 (36.7)
Number of patients given daily care	1-5	41 (16.7)
	6-10	66 (26.9)
	11 ≤	131 (53.5)
	No	7 (2.9)
Satisfied with their profession	Not be satisfied	45 (18.4)
	Partially be satisfied	133 (54.3)
	To be satisfied	67 (27.3)
Choosing nursing profession willingly	Yes	40 (16.3)
	Partially	95 (38.8)
	No	110 (44.9)
Attended the scientific conference	Yes	107 (43.7)
	No	138 (56.3)
Member of a professional association	Yes	86 (35.1)
	No	159 (64.9)
Have ethics education	Yes	140 (57.1)
	No	105 (42.9)

### Nurses professional values scale and caring behaviors inventory-24 scores

The NPVS total mean score of the surgical nurses was 118.26. Their mean scores were found as 42.24, 26.03, 18.81, 15.67, and 15.49 for the NPVS subscales of human dignity, sense of responsibility, activism, security and autonomy, respectively. The CBI-24 total mean score of the surgical nurses was 5.25. Their mean scores were found as 5.21, 5.21, 5.50, and 5.13 for the CBI-24 subscales of assurance, respectfulness, knowledge and skills and connectedness, respectively (Table 2).

**Table 2.** The scores of NPVS and CBI-24

NPVS and subscales	Mean (SD)	Min-Max
Human dignity	42.24 (7.91)	19-55
Sense of responsibility	26.03 (5.21)	15-35
Activism	18.81 (3.91)	8-25
Security	15.67 (2.84)	8-20
Autonomy	15.49 (3.10)	8-20
Total mean score	118.26 (21.10)	31-155
CBI-24 and subscales		
Assurance	5.21 (0.72)	2.5-6
Respectfulness	5.21 (0.73)	3-6
Knowledge and skills	5.50 (0.63)	3-6
Connectedness	5.13 (0.73)	3-6
Total mean score	5.25 (0.66)	3-6

### Comparison of the nurses' characteristics and NPVS scores

The nurses with master's degrees had significantly higher mean scores in both NPVS ( $c^2=15.073$ ;  $p=0.002$ ) and its subscales of human dignity ( $c^2=13.754$ ;  $p=0.003$ ); activism ( $c^2=13.246$ ;  $p=0.004$ ) and autonomy ( $c^2=24.723$ ;  $p=0.000$ ). The nurses working at plastic and reconstructive surgery units had significantly higher mean scores, in both NPVS ( $c^2=22.475$ ;  $p=0.033$ ) and its subscales of sense of responsibility ( $c^2=28.033$ ;  $p=0.005$ ) and security ( $c^2=24.428$ ;  $p=0.018$ ), whereas those working at operating rooms had a significantly higher mean score, in activism only ( $c^2=28.626$ ;  $p=0.004$ ).

The surgical nurses with work experience of 6-10 years had a significantly higher mean score on NPVS ( $c^2=8.948$ ;  $p=0.011$ ), whereas those with a work experience of less than five years had significantly higher mean scores in the subscales of human dignity ( $c^2=6.494$ ;  $p=0.039$ ), sense of responsibility ( $c^2=12.595$ ;  $p=0.002$ ), activism ( $c^2=8.572$ ;  $p=0.014$ ) and security ( $c^2=6.094$ ;  $p=0.048$ ). The nurses who were members of professional associations had a significantly higher mean score in the autonomy subscale ( $U=5612.500$ ;  $p=0.020$ ). The nurses who received ethics training had significantly higher mean scores in both NPVS and subscales, except for sense of responsibility ( $p<0.05$ ). There was no statistically significant difference between the nurses' NPVS total and subscale mean scores with respect to their other descriptive characteristics ( $p>0.05$ ).

### Comparison of the nurses' characteristics and CBI-24 Scores

The surgical nurses who worked 40-48 hours a week had significantly higher mean scores in both CBI-24 and all its subscales ( $p<0.05$ ). The female surgical nurses who worked at plastic and reconstructive surgery units had significantly higher mean scores in both CBI-24 and subscales, except for knowledge and skills ( $p<0.05$ ). The nurses who were satisfied with their profession had significantly higher mean scores in CBI-24 and the sub-

scales of assurance and respectfulness ( $p<0.05$ ). The nurses who chose their profession willingly had significantly higher mean scores in the subscales of assurance and knowledge-skills, whereas those who chose their profession reluctantly had significantly higher mean scores in CBI-24 and the subscales of respectfulness and connectedness ( $p<0.05$ ). There was no statistically significant difference between the nurses' CBI-24 total and subscale mean scores with respect to their other descriptive characteristics ( $p>0.05$ ). Work experience in surgical units caused a significant difference only in the subscale of knowledge and skills, whereby the nurses with a work experience of 10 years or higher at surgical units had significantly higher mean scores in the knowledge and skills subscale ( $c^2=9.474$ ;  $p=0.024$ ).

### The relationship between surgical nurses' professional values and care behaviors

A weak, positive and significant relationship was found between the professional values and care behaviors of the surgical nurses ( $p<0.001$ ) (Table 3).

**Table 3.** The relationship between nurses' professional values and care behaviors

Care Behaviors Scale-24	Nurses' Professional Values Scale					
	Human dignity	Sense of responsibility	Activism	Security	Autonomy	Total mean score
Assurance	$r=0.398$ $p=0.000$	$r=0.295$ $p=0.000$	$r=0.357$ $p=0.000$	$r=0.323$ $p=0.000$	$r=0.333$ $p=0.000$	$r=0.381$ $p=0.000$
Respectfulness	$r=0.385$ $p=0.000$	$r=0.321$ $p=0.000$	$r=0.369$ $p=0.000$	$r=0.344$ $p=0.000$	$r=0.331$ $p=0.000$	$r=0.387$ $p=0.000$
Knowledge and skills	$r=0.392$ $p=0.000$	$r=0.277$ $p=0.000$	$r=0.347$ $p=0.000$	$r=0.346$ $p=0.000$	$r=0.378$ $p=0.000$	$r=0.382$ $p=0.000$
Connectedness	$r=0.388$ $p=0.000$	$r=0.313$ $p=0.000$	$r=0.361$ $p=0.000$	$r=0.321$ $p=0.000$	$r=0.327$ $p=0.000$	$r=0.381$ $p=0.000$
Total mean score	$r=0.420$ $p=0.000$	$r=0.324$ $p=0.000$	$r=0.385$ $p=0.000$	$r=0.356$ $p=0.000$	$r=0.364$ $p=0.000$	$r=0.411$ $p=0.000$

## Discussion

### Nurses professional values scale and caring behaviors inventory-24 scores

This study determined that surgical units give importance to professional values. It is noteworthy that studies on the professional values of nurses are mostly conducted with nurse managers, pediatric nurses, cardiac surgery nurses, oncology nurses and nursing students.<sup>3,18,22,23</sup> These studies report that nurses have high professional values.<sup>3,7,8,24,25</sup> The result of this study was consistent with those of previous studies. Additionally, this result was significant in terms of showing that surgical nurses, who work in a complex healthcare structure, adopt the professional values of nursing.

In this study, the surgical nurses obtained high NPVS scores on the desired level. Additionally, the surgical nurses had the highest and lowest mean scores on the human dignity and autonomy subscales, respective-

ly. The humanistic view argues that the primary value of humanity for a sustainable social life is “human dignity”.<sup>26</sup> However, Al-Banna conducted a study with cardiac surgery nurses in Iraq, and they stated that they obtained the highest and lowest mean scores on the autonomy and human dignity subscales, respectively.<sup>22</sup> Also, Other study has emphasized human dignity as the most important professional value of nurses.<sup>27,28</sup>

This study found that the surgical nurses had high perceptions of care behaviors. Several studies conducted in the world and Turkey have found that nurses and nursing students have high perceptions of care behaviors.<sup>23,27</sup> The high perceptions of care behaviors in surgical nurses who provide multi-faceted care at an intensive tempo is an important indicator in terms of reflecting that they provide good quality healthcare.

In this study, the surgical nurses obtained the highest mean score in the knowledge and skills subscale. Several studies conducted in the world and Turkey have reported that nurses have high knowledge-skills scores.<sup>15,23,29</sup> Nursing is a profession consisting of science and art. This result is a reflection of the nature of the profession of nursing. Additionally, the emphasis on practices for increasing knowledge and skills in nursing education in recent years might have been effective in achieving this result.

#### ***Comparison of the nurses’ characteristics and NPVS scores***

This study found no statistically significant difference between the surgical nurses’ professional values according to their descriptive characteristics including their work experience at surgical units, current place of duty, professional satisfaction and status of willingly choosing the profession. One study on the professional values of nurses in Turkey reported that gender and work experience at surgical units do not significantly affect professional values in nurses.<sup>8</sup> In the literature, similar studies have been mostly conducted in Middle Eastern countries. Studies conducted in Saudi Arabia and Iran have reported no relationship between the descriptive characteristics and professional values of nurses.<sup>25,30</sup> Another study conducted with surgical nurses in Iran reported that female nurses obtained significantly higher NPVS scores.<sup>31</sup>

This study found a statistically significant difference between the surgical nurses’ human dignity, security and activism values, but it determined no statistically significant difference between their responsibility values based on their educational levels. Additionally, having master’s degrees significantly increased their professional value levels. Erkus and Dinc reported a significant relationship between the educational level and professional values of Turkish nurses.<sup>6</sup> One systematic review study stated that nurses with higher education adopt more professional values to provide quality nurs-

ing care.<sup>32</sup> This suggests that access to current information by having undergraduate and graduate education affects professional values in nurses. However, there are also studies showing that the level of education does not affect the professional values of nurses.<sup>11,19</sup>

In this study, the surgical nurses who were members of professional associations had significantly higher mean scores in the autonomy subscale, and those who attended scientific conferences had significantly higher mean scores in the activism, security and autonomy subscales. Additionally, those with ethical training had significantly higher mean scores in all professional values subscales, except for sense of responsibility. These results suggested that being a member of professional associations, having scientific studies, attending conferences and receiving ethics training, which are important indicators of professionalization in nursing, have a positive effect on the professional values of surgical nurses. Monroe reported that having ethics education positively affects the professional values of nurses.<sup>5</sup> Torabizadeh et al. also reported that operating room nurses with ethics training obtained significantly higher NPVS mean score.<sup>31</sup> On the other hand, the low number of nurses (36%) who were members of professional associations was a remarkable result suggesting that awareness of associations among surgical nurses is still not on the desired level. Schank and Weis reported that most nurses are not members of professional associations.<sup>5</sup> They also stated that nurses do not have sufficient awareness of the role of professional care associations in shaping healthcare policies. Another study found a significantly low number of nurses who were members of professional associations, suggesting that being a member of a professional association did not affect the professional values of nurses.<sup>33</sup> Increasing the awareness of nurses on professional organization based on volunteerism is important for them to adopt professional nursing values. In this respect, it is important for nursing professional associations to set active, continuous and sustainable goals and take an active role in development of nurses’ professional values.

This study found a significant relationship between the nurses’ professional work experience and all professional values, except for autonomy. Some studies reported that professional work experience does not affect the professional values of nurses.<sup>33</sup> However, other studies reported a positive significant relationship between nurses’ work experience and their professional values.<sup>6,7,33</sup> Unlike other studies, this study determined that, as the work experience of the surgical nurses decreased, their NPVS mean scores increased significantly. This result may have been due to the changes in individual, social and cultural characteristics of the participants depending on generational changes and the institutional features of the hospitals they worked for.

This study also determined that the surgical nurses who worked less than 40 hours at surgical units obtained the highest NPVS mean score. Additionally, the surgical nurses without night shifts had significantly higher mean scores in the security subscale. As another important result of this study, the surgical nurses who were satisfied with their profession had a higher NPVS mean score, although the difference was not statistically significant. Studies have reported that weekly working hours positively affect the professional satisfaction and values of nurses.<sup>34</sup> One study on the professional values of nurses found that nurse managers had higher professional values than those who had lower work experience and were actively involved in patient care.<sup>18</sup> Kantek and Kaya also reported significantly higher NPVS mean scores for nurse managers who were satisfied with their profession. In this study, the fact that nurse managers without night shifts undertake important tasks such as determining the clinical organization and the standard of patient care and following and applying innovative approaches and practices in this regard might have had a positive impact on their professional values.<sup>35</sup>

This study found that the surgical nurses who worked at operating rooms, general surgery units and plastic and reconstructive surgery units adopted higher levels of professional values. However, one study in Turkey found no statistically significant relationship between the professional values of nurses based on their work units.<sup>36</sup> Unlike the previous study results, the result of this study showing higher professional values in surgical nurses suggested that the treatment and care approaches of patients at these surgical units were being carried out in line with team spirit and work, and therefore, all employees including nurses who worked at these units adopted the organizational culture, causing them to have higher levels of professional values.

#### *Comparison of the nurses' characteristics and CBI-24 scores*

In this study, a statistically significant difference was found between the surgical nurses' perceptions of care behaviors with respect to gender, except for knowledge and skills subscale, whereby the female nurses had higher perceptions of care behaviors than the male nurses. Unlike this study, previous studies have reported that gender has no effect on the care behaviors of nurses.<sup>14,16</sup> The higher perception of the care behaviors in the female nurses in this study may be attributed to the lower number of the male nurses in the study. The lack of a significant difference between the knowledge and skills subscale mean scores of the male and female nurses in the study may be attributed to adoption of a patient-centered care approach at surgical units.

The fact that surgical nurses have adequate knowledge and skills of critical thinking and quick decision-making for planning and maintaining patient care

due to the health conditions of surgical patients and are willing to do their jobs affects the quality of patient care. This study found that the surgical nurses who chose the profession of nursing willingly and were satisfied with their job had significantly higher perceptions of care behaviors. One study, which compared the caring behaviors of American and Turkish nursing students, found that choosing the profession willingly increased the perceptions of care behaviors.<sup>24</sup>

This study found no statistically significant relationship between the surgical nurses' educational levels and their perceptions of care behaviors. However, it was also found that the nurses who attended scientific conferences had significantly higher perceptions of care behaviors. Previous studies have reported different results regarding the relationship between nurses' educational levels and their care behavior perceptions. Some studies found no statistically significant difference between nurses' care behaviors with respect to their educational levels.<sup>16</sup> On the other hand, one study reported that the educational level of nurses positively affected their perceptions of care behaviors.<sup>14</sup> This suggests that, besides basic nursing education, participation in scientific activities and in-service trainings, which lead to professional development of nurses in their work life, increase their perceptions of care behaviors.

This study also found no statistically significant relationship between the surgical nurses' work experience in the profession and surgical units and their perceptions of care behaviors. However, it determined that the nurses with higher work experience at surgical units obtained significantly higher mean scores in the knowledge and skills subscale. It found a statistically significant difference between the caring behaviors of nurses based on work experience in two studies.<sup>15,16</sup> It cannot be denied that professional experience and concurrent trainings increase the professional knowledge and skills of nurses. This was a significant result in terms of showing that surgical nurses care about their professional development.

In this study, the nurses who worked 40-48 hours a week at surgical units had significantly higher perceptions of care behaviors. Nurses who work 40-48 hours a week can maintain an effective communication with their patients every day. Additionally, this period is important for nurses to identify, follow up and meet the needs of patients regularly. Therefore, this period also has a positive effect on nurses' job satisfaction and perception of care behaviors. This result was consistent with those of a previous study.<sup>34</sup>

#### *The relationship between surgical nurses' professional values and care behaviors*

This study found a positive relationship between the nurses' professional values and care behaviors. Professionalism is very important to determine the professional standards

in providing quality care.<sup>16</sup> Therefore, the high NPVS and CBI-24 mean scores of the nurses in this study suggested that surgical nurses adopt professional nursing values and provide good quality care for their patients. Geyer et al. reported that activation of professional values positively affects all dimensions of care behaviors and job performance.<sup>37</sup> Aktas and Karabulut found a significant positive relationship between the professional values and caring behaviors of Turkish nursing students.<sup>38</sup> The result of this study was consistent with those in the literature.

### Study limitations

This study had some limitations. First of all, it had a small sample size. So, its results may not be generalized to all surgical nurses in Turkey. Secondly, the female nurses constituted the majority of the sample. Therefore, the results cannot be generalized to both genders.

### Conclusion

This study showed that surgical nurses had high perceptions of professional values and care behaviors, and they adopted at most human dignity from professional values. Both the individual and professional characteristics of the surgical nurses affected their perceptions of professional values and care behaviors. Additionally, there was a positive significant relationship between the nurses' professional values and care behaviors.

According to these results, it is recommended (i) to conduct in-service trainings to increase the professional values of surgical nurses in coordination with their work life, (ii) to review institutional policies to provide surgical nurses with both professional and job satisfaction, (iii) to make organizational and social arrangements and organize scientific activities that will increase surgical nurses' adoption of organizational culture at their work units and (iv) to perform further comprehensive studies of the professional values and care behavior perceptions of surgical nurses.

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### Declarations

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The authors have not declared.

#### Author contributions

Conceptualization, A.Ç.B and S.Ç.; Methodology, A.Ç.B. and S.Ç.; Software, A.Ç.B.; Validation, A.Ç.B. and S.Ç.; Formal Analysis, A.Ç.B. and S.Ç.; Investigation, A.Ç.B.; Resources, A.Ç.B.; Writing – Original Draft Preparation, A.Ç.B.; Visualization, A.Ç.B. and S.Ç.; Supervision, A.Ç.B. and S.Ç.; Project Administration, A.Ç.B. and S.Ç.; Funding Acquisition, A.Ç.B. and S.Ç.

### Conflict of interest

The authors report no conflicts of interests.

### Data availability

Data available on request from the authors.

### Ethics approval

Ethical approval to conduct the study was obtained from the Human Research Ethics Committee of Zonguldak Bulent Ecevit University (decision number:373, Decision date: 29.05.2018). Informed consent was obtained from the surgical nurses participating in the study.

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