

## Cardiovascular Intensive Care Nurses' Job Satisfaction and Attitudes Toward Teamwork

### Kardiyovasküler Yoğun Bakım Hemşirelerinin İş Doyumları ve Ekip Çalışması Tutumları

#### ABSTRACT

**Objective:** This research was conducted to determine the job satisfaction and attitudes toward teamwork among cardiovascular intensive care nurses.

**Method:** A descriptive design was used in this study. The research was conducted with the participation of 138 nurses working in the cardiac intensive care unit of a public hospital. Data were collected using the "Demographic Data Form," "The Job Satisfaction Scale," and the "TeamSTEPPS® Teamwork Attitudes Questionnaire." The SPSS 21.0 program was used for data analysis. The suitability of the data for normal distribution was assessed using the Kolmogorov-Smirnov test. The Mann-Whitney U test, Kruskal-Wallis test, Bonferroni-corrected Mann-Whitney U test, and Spearman's rank correlation coefficient (rho) analysis were applied.

**Results:** The average total score on the Job Satisfaction Scale was  $3.25 \pm 0.53$ , while the average total score on the Teamwork Attitudes Scale was  $108.81 \pm 9.96$ . A statistically significant low correlation was found between the Job Satisfaction Scale and the scores on the Teamwork Attitudes Scale ( $r=0.269$ ,  $p=0.01$ ).

**Conclusion:** Cardiovascular nurses were found to have high levels of job satisfaction and positive attitudes toward teamwork. Job satisfaction increased as positive attitudes toward teamwork improved.

**Keywords:** Cardiovascular intensive care, job satisfaction, nursing, teamwork

#### ÖZET

**Amaç:** Bu araştırmada, kardiyovasküler yoğun bakım hemşirelerinin iş doyumları ve ekip çalışmasına yönelik tutumlarını incelemek amaçlanmıştır.

**Yöntem:** Bu çalışmada tanımlayıcı araştırma deseni kullanılmıştır. Bir hastanenin kardiyovasküler yoğun bakım ünitelerinde çalışan ve araştırmaya gönüllü olarak katılmayı kabul eden 138 hemşire çalışma kapsamına alınmıştır. Araştırmada veriler "Demografik Veri Formu", "İş Doyumu Ölçeği" ve "TeamSTEPPS® Ekip Çalışması Tutumları Anketi" kullanılarak elde edilmiştir. Veri analizi için SPSS 21.0 programı kullanılmıştır. Kolmogorov Smirnov testi ile verilerin normal dağılıma uygunluğu analiz edilmiştir. Mann-Whitney U testi, Kruskal-Wallis testi, Bonferroni düzeltilmeli Mann-Whitney U testi ve Spearman'ın sıra korelasyon katsayısı (rho) analizi kullanılmıştır.

**Bulgular:** İş Doyumu Ölçeği toplam puan ortalaması  $3.25 \pm 0.53$ , Ekip Çalışması Tutumları Ölçeği toplam puan ortalaması  $108.81 \pm 9.96$ 'dır. İş Doyumu Ölçeği ile Ekip Çalışması Tutumları Ölçeği puanları arasında düşük düzeyde istatistiksel olarak anlamlı ilişki bulunmuştur ( $r=0.269$ ,  $p=0.01$ ).


**Sonuç:** Kardiyovasküler yoğun bakım hemşirelerinde iş doyum ve ekip çalışması tutumlarının yüksek düzeyde olduğu ve ekip çalışmasına yönelik olumlu tutum arttıkça iş doyumunun da arttığı belirlenmiştir.

**Anahtar Kelimeler:** Kardiyovasküler yoğun bakım, iş doyum, hemşirelik, ekip çalışması

#### ORIGINAL ARTICLE KLİNİK ÇALIŞMA

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## Introduction

Cardiovascular nurses are specialists who provide critical care to patients in cardiovascular intensive care units (CICUs). They monitor hemodynamic parameters and interpret and record electrocardiograms as part of patient care. They also operate and manage mechanical ventilator devices and perform key tasks such as arrhythmia control,

management, and the initiation of resuscitation.<sup>1,2</sup> Patients in CICUs require intervention by compatible and well-trained professionals.<sup>3</sup>

Cardiovascular nurses must work in close cooperation with colleagues and physicians.<sup>4–7</sup> In fact, teamwork involving coordinated interventions aimed at a common goal is central to intensive care unit practice. Successful and comprehensive nursing care for CICU inpatients depends on effective job satisfaction and teamwork.<sup>5</sup>

Job satisfaction is defined as an emotional response that an employee develops based on their evaluation of their job and work environment.<sup>8</sup> In addition to individual factors, institutional and environmental elements such as the working environment and conditions, salary, management style, relationships with supervisors, and workplace communication problems have been identified as influencing job satisfaction.<sup>9,10</sup>

High staff turnover, heavy workloads, and patient deaths contribute to low job satisfaction in CICUs. Moreover, excessive workload negatively impacts teamwork, which can reduce the quality of care. Over time, this may affect patient safety and cause nurses to transfer to other departments or leave the profession altogether due to dissatisfaction. Currey<sup>5</sup> in 2019 emphasized the importance of resolving disagreements and conflicts among intensive care nurses to improve job satisfaction. Such challenges in CICUs can undermine teamwork, job satisfaction, and the quality of patient care. In contrast, effective teamwork can enhance job satisfaction, performance, and self-efficacy by motivating staff.<sup>10</sup>

Therefore, it is recommended that nurse managers remain attentive to job satisfaction and teamwork, which are critical to institutional success. They should identify factors that improve job satisfaction, resolve conflicts promptly, and implement corrective and developmental measures. Teamwork, communication, and collaboration have been consistently emphasized as essential to the quality of patient care in CICUs.<sup>2,3,7,11,12</sup>

Job satisfaction and teamwork are key drivers of patient safety, quality of care, and ultimately, patient satisfaction. While several studies have explored job satisfaction and teamwork attitudes among intensive care nurses, no research to date has examined both job satisfaction and teamwork attitudes—and the relationship between them—among nurses working specifically in CICUs. This study aimed to determine the job satisfaction and teamwork attitudes of cardiovascular nurses working in CICUs, as well as the relationship between these two variables.

## Material and Methods

### Design and Setting

A descriptive research design was employed. The study was conducted in the CICUs of a public hospital in Turkey between April and October 2019 (inclusive). The study population consisted of nurses working in CICUs (n=154). The sample size was not calculated; instead, 138 cardiovascular nurses who voluntarily agreed to participate were recruited, representing 89.61% of the population.

## MAIN POINTS

- Job satisfaction and teamwork are important factors that can positively impact patient safety.
- Cardiovascular nurses reported high levels of job satisfaction and teamwork.
- Job satisfaction increased as positive attitudes toward teamwork improved among cardiovascular nurses.

The study aimed to answer the following two questions:

1. What are the levels of job satisfaction and teamwork attitudes among cardiovascular intensive care nurses?
2. Is there a relationship between teamwork attitudes and job satisfaction among cardiovascular intensive care nurses?

## Data Collection Tools

Data for the study were collected using the Personal Information Form, the Job Satisfaction Scale, and the TeamSTEPPS® Teamwork Attitudes Questionnaire.

### Personal Information Form

This form was developed based on a review of the relevant literature and includes seven questions that capture the sociodemographic and professional characteristics of cardiovascular intensive care nurses.<sup>1–3,5</sup>

### Job Satisfaction Scale (JSS)

Developed by Muya et al.<sup>13</sup> in 2014 to measure job satisfaction levels among nurses in Japan, the scale consists of 28 items and four subdimensions. Its validity and reliability for Turkish nurses were established by Yılmaz and Yıldırım<sup>14</sup> in 2016, who revised the scale to include 27 items. The total Cronbach's alpha value was reported as  $\alpha=0.90$ . In the present study, the Cronbach's alpha value was found to be 0.89. The scale does not include a cutoff point. Higher scores (approaching 5) indicate higher job satisfaction, while lower scores (approaching 1) reflect lower job satisfaction.

### TeamSTEPPS® Teamwork Attitudes Questionnaire (T-TAQ)

This tool was developed to assess individuals' attitudes toward teamwork.<sup>15</sup> It evaluates attitudes across five subdimensions that represent core components of teamwork: 'team structure,' 'leadership,' 'situation monitoring,' 'mutual support,' and 'communication.' The questionnaire includes a total of 30 items, with six items in each subdimension. The Turkish validity and reliability study was conducted by Yardımcı et al.<sup>16</sup> in 2012, with Cronbach's alpha values ranging from 0.70 to 0.89. In the current study, the overall Cronbach's alpha value was 0.87. The questionnaire uses a Likert scale format: "strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4), strongly agree (5)." Higher scores indicate more positive attitudes toward teamwork, while lower scores reflect more negative attitudes.

## Data Collection

Data were collected by the researchers through in-person interviews with nurses who volunteered to participate in the study. The forms were distributed to the nurses in sealed

envelopes, and participants were asked to complete them. They were informed about the estimated time required to fill out the questionnaire, and the completed forms were returned in sealed envelopes within the time frame they specified. The time to complete the questionnaire ranged from 15 minutes to 2 hours.

Participants were instructed not to write their names on the data collection forms. Additionally, all collected data were stored in a locked cabinet to ensure the privacy and confidentiality of participants' information.

### Data Analysis

The Statistical Package for the Social Sciences (SPSS) version 21.0 (IBM Corp., Armonk, NY, USA) was used for data analysis. Variables determined by count were presented as numbers and percentages, while variables determined by measurement were presented as means and standard deviations. The suitability of the data for normal distribution was assessed using the Kolmogorov-Smirnov test. The Mann-Whitney U test, Kruskal-Wallis test, Bonferroni-corrected Mann-Whitney U test, and Spearman's rank correlation coefficient ( $\rho$ ) analysis were applied. A significance level of  $p < 0.05$  was considered statistically significant.

### Ethical Considerations

Official written permission was obtained from the hospital and the Health Sciences University Non-Interventional Research Ethics Committee (Approval Number: 19/113, Date: 26.03.2019), as well as written consent from the participating nurses. After the purpose, methodology, and data reporting process of the study were explained, nurses who provided informed consent were included in the study. Permission from the original authors was obtained for the use of the scales employed in the research. The study was conducted in accordance with the principles of the Declaration of Helsinki. Artificial intelligence-assisted technologies were not used in the study.

### Results

According to the descriptive characteristics of the participating cardiovascular intensive care nurses, 48.6% were aged 20–25, 60.1% were married, and 62.3% had been working as cardiovascular intensive care nurses for 1–5 years. All participants were women.

The distribution of the JSS and T-TAQ subdimension and total scores for cardiovascular intensive care nurses is presented in Table 1. Table 2 compares the mean JSS and T-TAQ scores based on the descriptive characteristics of the cardiovascular intensive care nurses ( $n=138$ ). A statistically significant difference was found in JSS scores according to age group, marital status, years of employment, and whether the career was chosen voluntarily ( $p<0.05$ ). Higher JSS scores were observed among nurses aged 20–25 and 31–35, those who were single, those with 1–5 years of experience, and those who had chosen their career independently. When T-TAQ mean scores were compared across age groups, marital status, years of employment, type of employment, and voluntary career choice, no statistically significant differences were found ( $p>0.05$ ). A statistically significant, positive, weak correlation was identified between JSS and T-TAQ total scores ( $r=0.269$ ;  $p=0.01$ ). As JSS scores increased, T-TAQ scores also increased.

**Table 1. Distribution of cardiovascular intensive care nurses' JSS and T-TAQ sub-dimensions and total scores ( $n=138$ )**

Variables	Mean $\pm$ SD	Min–Max
The Job Satisfaction Scale		
Positive feelings towards work	3.38 $\pm$ 0.60	1.50–4.63
Appropriate support from superiors	3.24 $\pm$ 0.95	1–5
Perceived significance in the workplace	3.78 $\pm$ 0.52	1.50–5
Pleasant working environment	2.60 $\pm$ 0.69	1–4.20
Total Score	3.25 $\pm$ 0.53	1.25–4.38
TeamSTEPPS® Teamwork Attitudes Questionnaire		
Team structure	22.98 $\pm$ 2.55	15–30
Leadership	24.86 $\pm$ 2.98	12–30
Situation monitoring	24.07 $\pm$ 2.64	14–30
Mutual support	16.79 $\pm$ 2.87	11–25
Communication	20.18 $\pm$ 2.49	12–25
Total Score	108.81 $\pm$ 9.96	68–140

SD: Standard deviation; Min: Minimum; Max: Maximum.

### Discussion

This research was conducted to determine the job satisfaction and teamwork attitudes of cardiovascular intensive care nurses and to explore the relationship between these variables. Additionally, the effects of nurses' characteristics on job satisfaction and teamwork were examined. The study found that cardiovascular nurses working in CICUs reported high levels of job satisfaction. Similarly, Vermeir et al.<sup>6</sup> in 2018 conducted a quantitative study involving 379 intensive care nurses in Flemish hospitals to examine communication and job satisfaction. This study also found that cardiovascular intensive care nurses reported high job satisfaction. However, in a cross-sectional study of 224 intensive care nurses in China, Liu et al.<sup>12</sup> in 2017 reported that job satisfaction levels were moderate. In their systematic review of 18 studies, Dilig-Ruiz et al.<sup>17</sup> in 2018 noted that 24 studies provided conceptual definitions of job satisfaction. Among those working in CICUs, job satisfaction was reported at 60%.<sup>17</sup> Masum et al.<sup>18</sup> in 2016 surveyed 417 intensive care nurses across six large hospitals and found that cardiovascular intensive care nurses rated their job satisfaction at 3.46 out of 6, corresponding to an average of 58%, indicating a moderate level of satisfaction. In the same study, nurses expressed high satisfaction with their work environment, support from supervisors, and relationships with colleagues. However, dissatisfaction was reported due to low wages and limited financial benefits. In our study, managerial support—one of the subdimensions of the Job Satisfaction Scale—was perceived as high. This perception appears to contribute significantly to the high levels of job satisfaction among cardiovascular intensive care nurses. High job satisfaction is expected to positively impact the quality of patient care. Taylor et al.<sup>19</sup> in 2020 reported that low job satisfaction among intensive care nurses negatively affected the quality of patient care. Therefore, it is essential to thoroughly understand the factors influencing job satisfaction in intensive care settings.<sup>17</sup>

**Table 2. Comparison of JSS and T-TAQ scores according to the descriptive characteristics of cardiovascular intensive care nurses (n=138)**

	n (%)	JSS Mean±SD	Statistics test/ difference	T-TAQ Mean±SD	Statistics test
Age, years					
(1) 20–25	67 (48.6)	3.45±0.41	F=8.69 <sup>a</sup> p=0.01 1–2,4;3–4	110.85±9.96	F=2.28 <sup>a</sup> p=0.06
(2) 26–30	40 (29.0)	3.07±0.50		106.42±8.36	
(3) 31–35	12 (8.7)	3.43±0.41		111.41±6.27	
(4) 36–40	14 (10.1)	2.74±0.74		104.50±14.59	
(5) 40 and over	5 (3.6)	3.14±0.33		106.60±7.73	
Education status					
Health vocational school	22 (15.9)	3.22±0.37	F=2.38 <sup>a</sup> p=0.07	109.18±10.17	F=0.40 <sup>a</sup> p=0.74
Associate degree	15 (10.9)	2.93±0.62		108.13±11.66	
Bachelor's degree	96 (69.6)	3.30±0.54		109.08±8.92	
Master's degree	5 (3.6)	3.41±0.29		104.20±21.41	
Marital status					
Single	83 (60.1)	3.36±0.48	t=-2.96 <sup>b</sup> p=0.01	109.55±8.97	t=-1.066 <sup>b</sup> p=0.288
Married	55 (39.9)	3.09±0.55		107.70±11.32	
Working years					
(1) 1–5 years	86 (62.3)	3.38±0.47	F=5.57 <sup>a</sup> p=0.01 1–2,3	108.91±10.13	F=1.03 <sup>a</sup> p=0.379
(2) 6–10 years	22 (15.9)	3.18±0.43		110.36±4.84	
(3) 11–15 years	20 (14.5)	2.95±0.61		109.20±12.38	
(4) 16–20 years	10 (7.2)	2.95±0.64		103.80±11.33	
Working shifts					
Only day time	15 (10.9)	3.44±0.30	F=2.73 <sup>a</sup> p=0.06	111.53±6.50	F=0.65 <sup>a</sup> p=0.52
Daytime+night shifts	113 (81.9)	3.20±0.54		108.41±10.50	
Night shifts	10 (7.2)	3.52±0.51		109.30±7.57	
Career choice					
(1) Own choice	83 (60.1)	3.38±0.46	F=10.32 <sup>a</sup> p=0.01 1–2,2–3,1–3	109.49±8.84	F=1.82 <sup>a</sup> p=0.16
(2) Family choice	35 (25.4)	3.21±0.55		109.45±10.95	
(3) By chance	20 (14.5)	2.82±0.52		104.90±12.02	

SD: Standard deviation; a: One-way Anova; b: t-test.

According to the results of our study, no significant differences were found in job satisfaction based on education level or work shifts. However, a difference was observed with respect to age, as younger nurses reported higher job satisfaction. Similar to our findings, Masum et al.<sup>18</sup> in 2016 reported a significant and positive relationship between age and job satisfaction. Additionally, our study showed that as nurses' intensive care experience increased, their job satisfaction decreased. In contrast, Masum et al.<sup>18</sup> in 2016 found that job satisfaction increased with experience. Lu et al.<sup>9</sup> in 2012 identified a weak relationship between experience and job satisfaction. Furthermore, our study found no significant relationship between job satisfaction and marital status or education level. Cardiovascular intensive care nurses who were single, younger, had fewer years of experience, and had chosen their profession independently were found to have higher job satisfaction. In a systematic review, Dilig-Ruiz et al.<sup>17</sup> in 2018 also found that age, gender, and education level were not associated with job satisfaction among critical care nurses. These findings suggest

that there is no consistent or universal relationship between the personal or professional characteristics of intensive care nurses and their job satisfaction.

Healthcare professionals must work collaboratively to provide safe and effective patient care; therefore, teamwork is essential.<sup>20</sup> It is important for nursing teams to share their knowledge and experience with other team members and to take initiative in patient care. The effectiveness of a nursing team depends on the knowledge and skills of its members.<sup>17</sup> Our study found that cardiovascular nurses demonstrated highly positive attitudes toward teamwork, and these attitudes were not influenced by their personal characteristics. Additionally, as positive attitudes toward teamwork increased, job satisfaction also increased. In line with our findings, Masum et al.<sup>18</sup> in 2016 reported that job satisfaction contributes to improved teamwork and greater support among colleagues.

In the CICU, charge nurses play a critical role in the leadership and overall success of the team.<sup>5,21</sup> The team leader in intensive



care should balance authority with collaborative management, establish shared goals and responsibilities, and act in the best interest of the patient. Moreover, the leader should promote open and sincere communication about potential problems, foster a culture free from fear of punishment, and encourage open discussions about errors and challenges.<sup>22</sup> In this study, the leadership subdimension received the highest score among nurses' attitudes toward teamwork. This suggests that cardiovascular intensive care nurses recognize the importance of leadership in CICUs and understand how to function collaboratively.

The nursing team must maintain effective communication to work harmoniously and provide organized, comprehensive patient care aligned with shared goals. In a study conducted in CICUs, Currey et al.<sup>5</sup> in 2019 noted that nurses emphasized the need for stronger relationships and open communication, especially given the long-term collaboration between doctors and nurses. Similarly, Galletta et al.<sup>23</sup> in 2014, in a study involving 222 intensive care nurses, found that effective communication between nurses and doctors positively influenced patient care outcomes. In our study, the communication subdimension of the T-TAQ was found to have high scores, which is a desirable outcome, as it reflects strong communication attitudes among nurses. According to the literature, nurses' job satisfaction is closely linked to working conditions, effective communication with team members, professional and institutional commitment, job stress, and patient satisfaction.<sup>6,9,12,17,23</sup>

This study found that as cardiovascular nurses' positive attitudes toward teamwork in the ICU increased, their job satisfaction also increased. Providing quality healthcare to patients in intensive care units is closely linked to both job satisfaction and effective teamwork among nurses.<sup>24</sup> Therefore, understanding nurses' attitudes toward job satisfaction and teamwork, as well as the factors that influence these attitudes in specialized units such as cardiovascular intensive care, is essential.

### Limitations

This study was conducted at a single center. The findings are limited to the self-reported responses of cardiovascular nurses working in the hospital where the research was carried out.

### Conclusion

This study found that cardiovascular intensive care nurses in CICUs had high levels of job satisfaction and positive attitudes toward teamwork, and that job satisfaction increased as positive teamwork attitudes improved. It was also determined that nurses' attitudes toward teamwork did not vary based on their personal characteristics. However, job satisfaction differed by age group, marital status, years of experience, and career choice. Given that attitudes toward teamwork influence job satisfaction, it is important to develop strategies aimed at improving both teamwork attitudes and job satisfaction among cardiovascular intensive care nurses. Furthermore, identifying the factors that contribute to job dissatisfaction and negative attitudes toward teamwork is essential to ensure the quality and sustainability of nursing care. Future studies are recommended to examine additional variables that may impact teamwork attitudes and job satisfaction.

**Ethics Committee Approval:** Official written permission was obtained from the Health Sciences University Non-Interventional Research Ethics Committee (Approval Number: 19/113, Date: 26.03.2019).

**Informed Consent:** Written informed consent was obtained from the participating nurses.

**Conflict of Interest:** The authors have no conflicts of interest to declare.

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