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Adaptation and Psychometric Assessment of the Quality Nursing Care Scale for Turkish Nurses

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Abstract

This research aimed to evaluate the validity and reliability of the Turkish adaptation of the Quality Nursing Care Scale. Enhancing the quality of nursing care is fundamental to improving patient safety and reducing healthcare expenditures. To monitor and improve care standards, dependable and valid instruments for measuring nursing care quality are required. Employing a methodological and cross-sectional design, the study was conducted among 225 nurses working at a training and research hospital. The scale's psychometric properties were examined through analyses of content and construct validity, item performance, and internal consistency. The content validity index was 0.96, with item–total correlation coefficients exceeding 0.72. Factor loadings varied between 0.42 and 0.90. In contrast to the original version, the Turkish form revealed a three-dimensional structure. Model fit indices indicated satisfactory to excellent alignment. Cronbach's alpha for internal consistency was found to be 0.99. The Turkish version of the Quality Nursing Care Scale demonstrated excellent psychometric strength with a three-factor model, supporting its applicability for assessing the perceived quality of nursing care among Turkish nurses.

Keywords: Nursing care, Quality assessment, Psychometric validation, Reliability, Scale adaptation

Background

In recent years, hospitals have increasingly emphasized enhancing care delivery to meet the expectations of healthcare consumers [1, 2]. According to the World Health Organization (WHO), nearly 15% of total deaths in low- and middle-income countries—equivalent to 5.7–8.4 million deaths annually—are attributable to inadequate quality of care. The WHO defines quality care as the extent to which healthcare services provided to individuals and communities achieve desired health outcomes. To reach these outcomes, health services should be safe, effective, timely, efficient, equitable, and person-centered [3].

Nursing care forms the foundation of professional nursing knowledge, skills, and practice. The quality and effectiveness of nursing care are crucial for ensuring treatment adherence and improving patients' health outcomes. Effective nursing interventions not only promote recovery among ill patients but also enhance the well-being of healthy individuals, ultimately improving quality of life. Patients who receive high-quality nursing care often experience shorter hospital stays [4]. As the largest group of healthcare professionals, nurses play an essential role in delivering safe and high-quality healthcare services [5–7]. Quality nursing care contributes significantly to patient satisfaction, accelerates recovery, prevents complications, ensures patient safety, and supports the achievement of optimal clinical outcomes [2, 8, 9].

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Various stakeholders—patients, family members, administrators, and nurses—can assess the quality of nursing care from their own viewpoints. For patients and relatives, the focus often lies on communication, responsiveness, and emotional support provided by nurses. In contrast, hospital managers tend to prioritize efficiency, productivity, and cost-effectiveness. These differing perspectives highlight that assessments of care quality depend on one's knowledge base, values, and experiences. Hence, nurses' self-assessment of the care they deliver is fundamental to identifying areas for improvement and enhancing overall service quality [1, 10].

Nurses are key healthcare providers responsible for identifying patient needs, planning and evaluating care, advocating for patients, administering treatments, and ensuring comfort [3, 11]. Their evaluations are particularly valuable in settings such as psychiatric and pediatric units, where patients may lack the capacity to accurately assess their care experience. Moreover, it is often difficult for patients or other care recipients to judge the technical expertise or professional competencies of nurses [12, 13].

Previous research on nursing care quality has mainly focused on patients' perceptions, while studies examining nurses' evaluations of their own care remain limited [11, 14, 15]. Many studies have prioritized patient perspectives [16–18]; however, Lynn *et al.* [14] emphasized that any evaluation of care quality would be incomplete without incorporating nurses' viewpoints. Understanding how nurses perceive the quality of care they provide is essential for developing improvement strategies, reinforcing confidence in clinical practice, and identifying areas that require support or development. Such insights can also guide nurses in better recognizing patient needs and refining care approaches [19]. Therefore, the present study sought to assess the psychometric properties of the Turkish version of the Quality Nursing Care Scale (QNCS).

Method

Aim

The objective of this study was to examine the psychometric validity and reliability of the Turkish version of the Quality Nursing Care Scale.

Study design, setting, and sample

This methodological and cross-sectional research was conducted in a training and research hospital. The study included all nurses working in inpatient wards who voluntarily agreed to participate, yielding a sample of 225 nurses. Participants had a mean age of 33.81 years (SD = 7.70), with average professional experience of 8.95 years (SD = 6.94) and unit experience of 4.29 years (SD = 4.37). Most participants were female (86.7%), married (61.8%), and held undergraduate degrees (59.1%). The majority worked in surgical units (40.0%), on rotating day and night shifts (78.2%), with weekly working hours exceeding 46 (73.8%), and cared for 11 or more patients. Also, 66.2% of them were working evening and night shifts six or more times in a month **(Table 1)**.

Table 1. Personal and professional characteristics ($N = 225$)

Variable	Category	Count	Percentage
Average age (SD)		33.81 (7.71) years	
Average years in profession (SD)		8.95 (6.94) years	
Average years in current unit (SD)		4.29 (4.37) years	
Gender	Female	195	86.7
	Male	30	13.3
Marital status	Single	86	38.2
	Married	139	61.8
Educational attainment	High school	34	15.1
	Associate degree	24	10.7
	Bachelor's degree	133	59.1
	Graduate degree	34	15.1
Work unit	Surgical	90	40.0
	Medical	79	35.1
	ICU	56	24.9
Shift pattern	Night only	10	4.4
	Day only	39	17.3
	Mixed day & night	176	78.2
Hours worked per week	45	59	26.2
	46 or more	166	73.8
Patients cared for per shift	1–5	80	35.6
	6–10	48	21.3
	11 or more	97	43.1
Evening/night shifts per month	None	32	14.2
	1–5	44	19.6
	6 or more	149	66.2

Income level	Low	149	66.2
	Adequate or above	76	33.8
Satisfaction with hospital	No	97	43.1
	Uncertain	54	24.0
	Yes	74	32.9
Satisfaction with unit	No	88	39.1
	Uncertain	50	22.2
	Yes	87	38.7
Satisfaction with work environment	No	145	64.4
	Uncertain	40	17.8
	Yes	40	17.8
Satisfaction with pay	No	187	83.1
	Uncertain	28	12.4
	Yes	10	4.4

Procedure

This research followed internationally recognized protocols for scale translation and adaptation, as outlined by the International Test Commission and the COSMIN (Consensus-based Standards for the Selection of Health Measurement Instruments) guidelines [20–22]. The adaptation process progressed through several key stages. Initially, the items were translated and evaluated for content validity. In the next stage, correlations between each item and the overall scale score were calculated. The construct validity of the adapted version was then examined, followed by an analysis of its internal consistency to confirm reliability.

Data collection instruments

Data were gathered online through Google Forms over a three-month period, from September to November 2021. The survey link was distributed electronically to nurses employed at the participating hospital. Participants were required to provide digital informed consent before they could proceed to the questionnaire. All responses remained confidential, with access limited to the research team.

In validity and reliability research, it is generally recommended that the number of participants be at least five to ten times the number of items on the instrument [23]. Given that the Quality Nursing Care Scale (QNC) contains 38 items, the minimum desired sample size was 190 nurses. A total of 225 nurses completed the study, exceeding this threshold. The data collection tool consisted of two parts: a personal information form and the Turkish adaptation of the Quality Nursing Care Scale.

Information form

The information form comprised 18 questions designed to obtain background and occupational data about the participants. It included variables such as age, sex, marital status, educational background, working unit, shift type, total years of professional and unit experience, average weekly and monthly working hours, perceived income adequacy, and satisfaction with the institution, unit, working environment, and salary.

Turkish version of the quality nursing care scale

The original Quality Nursing Care Scale (QNC), created by Liu *et al.* [10], is a 38-item, five-point Likert-type instrument encompassing six subdimensions: Physical Environment (6 items), Staff Characteristics (8 items), Preconditions (7 items), Task-Oriented Activities (6 items), Human-Oriented Activities (5 items), and Patient Outcomes (6 items). In its original version, the instrument demonstrated strong internal reliability with a Cronbach's alpha of 0.96. Responses are rated from "strongly agree" (5) to "strongly disagree" (1), with higher scores reflecting greater perceived quality of nursing care.

Ethical considerations

Authorization to adapt the instrument into Turkish was obtained from the developer, who confirmed that no previous Turkish version existed. Ethical approval for the study was granted by the Clinical Research Ethics Committee of a university hospital (Approval No. 98, dated May 5, 2021). Formal permission was also obtained from the hospital administration prior to the data collection phase. Participation was entirely voluntary, and only nurses who completed the online informed consent form were included in the study.

Statistical analysis

All statistical analyses were performed using the Jamovi software, which operates on the R platform [24]. The content validity of the scale was evaluated using the Davis method. Item–total correlations were computed through Pearson's correlation analysis. To determine the suitability of the dataset for factor analysis, the Kaiser–Meyer–Olkin (KMO) test and Bartlett's test of sphericity were employed. The construct validity of the Turkish version was assessed first by exploratory factor analysis (EFA) using the principal axis factoring extraction method with

direct oblimin rotation, and subsequently by confirmatory factor analysis (CFA) to validate the emerging factor structure. Reliability was assessed by calculating Cronbach's alpha coefficients. A 95% confidence interval and a significance level of $p < 0.05$ were adopted throughout the analyses.

Results

Content validity index

For the evaluation of content validity, the translated scale was reviewed by 13 experts specializing in nursing management and internal medicine. Based on the Davis method, the content validity ratios (CVR) for individual items ranged between 0.85 and 1.00. The overall content validity index (CVI) of the Turkish version was calculated at 0.96. Afterward, two bilingual academicians—one a physician and the other a nurse with a doctoral degree—performed a back-translation into English to confirm conceptual and linguistic consistency with the original instrument.

Item–Total correlation analysis

The correlation analysis of the 38 items revealed that item–total correlation coefficients ranged from r = 0.72 to r = 0.92, demonstrating strong and statistically significant associations between individual items and the total scale score. These results indicate that all items contributed meaningfully to the construct being measured.

Table 2. Content validity ratios, item total point correlation values and factor loadings of the items

Item no	CVR	r	FL	Item no	CVR	r	FL
1	**1**	**.72**	**.72**	20	1	.87	.88
2	**1**	**.73**	**.72**	21	1	.87	.88
3	**1**	**.72**	**.72**	22	1	.85	.86
4	**1**	**.75**	**.76**	23	.92	.81	.82
5	**1**	**.73**	**.73**	24	.92	.85	.87
6	**.85**	**.74**	**.74**	25	1	.89	.90
7	1	.86	.86	26	1	.83	.85
8	1	.86	.87	27	1	.87	.88
9	.92	.82	.83	28	.85	.89	.86
10	.92	.86	.87	29	.85	.90	.84
11	.92	.87	.88	30	.92	.90	.82
12	1	.87	.88	31	.92	.92	.88
13	.92	.86	.87	32	1	.91	.84
14	1	.86	.87	*33*	*1*	*.81*	*.57*
15	.92	.87	.88	*34*	*1*	*.87*	*.58*
16	1	.86	.87	*35*	*1*	*.88*	*.56*
17	.85	.87	.89	*36*	*1*	*.85*	*.42*
18	.92	.86	.87	*37*	*1*	*.82*	*.52*
19	.92	.87	.88	*38*	*1*	*.84*	*.46*

CVR Content validity ratio, *r* Item total point correlation value, *FL* Factor loading

Factor analysis and construct validity

The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was found to be 0.975, indicating an excellent level of suitability for factor analysis. Bartlett's test of sphericity was also significant ($p < 0.001$), confirming that the data were appropriate for further multivariate analysis.

Initially, confirmatory factor analysis (CFA) was conducted based on the original six-factor model. However, the model fit indices were not satisfactory, as the chi-square to degrees of freedom ratio (χ^2/df) was 9.82, exceeding acceptable limits for a good fit. Consequently, exploratory factor analysis (EFA) was performed to identify the most suitable factor structure for the Turkish version of the scale.

The EFA results revealed factor loadings ranging from 0.42 to 0.93, and a three-factor solution emerged, explaining 80.81% of the total variance. During the analysis, items 4 through 10 showed cross-loadings on both Factors 1 and 2, while items 24, 26, and 27 loaded on Factors 1 and 3. Because the differences between cross-loading values exceeded 0.30, these items were retained under the factors with the higher loadings.

A second CFA was then conducted to test this revised three-factor model. The results demonstrated a substantially improved fit, with a χ^2/df ratio of 3.85. Other fit indices also indicated strong model adequacy: the Comparative Fit Index (CFI) was 0.90, the Standardized Root Mean Square Residual (SRMR) was 0.041, and the Root Mean Square Error of Approximation (RMSEA) was 0.011 **(Figure 1)**.

Table 3. Fit indices for the confirmatory factor analysis

Fit indices and x^2/df values	CFI	SRMR	RMSEA
	0.90	**0.0407**	**0.011**

Acceptable Fit Values	> 0.90	< .080	< .080
Good Fit Values	> 0.95	< 0.080	< 0.050
x^2	2408		
df	626		
x^2/df	3.85		
Acceptable value for x^2/df	< 5		
Good value x^2/df	< 2		

CFI The comparative fit index, *SRMR* Standardized root mean square residual, *RMSEA* The root mean square error of approximation, *df* degree of freedom

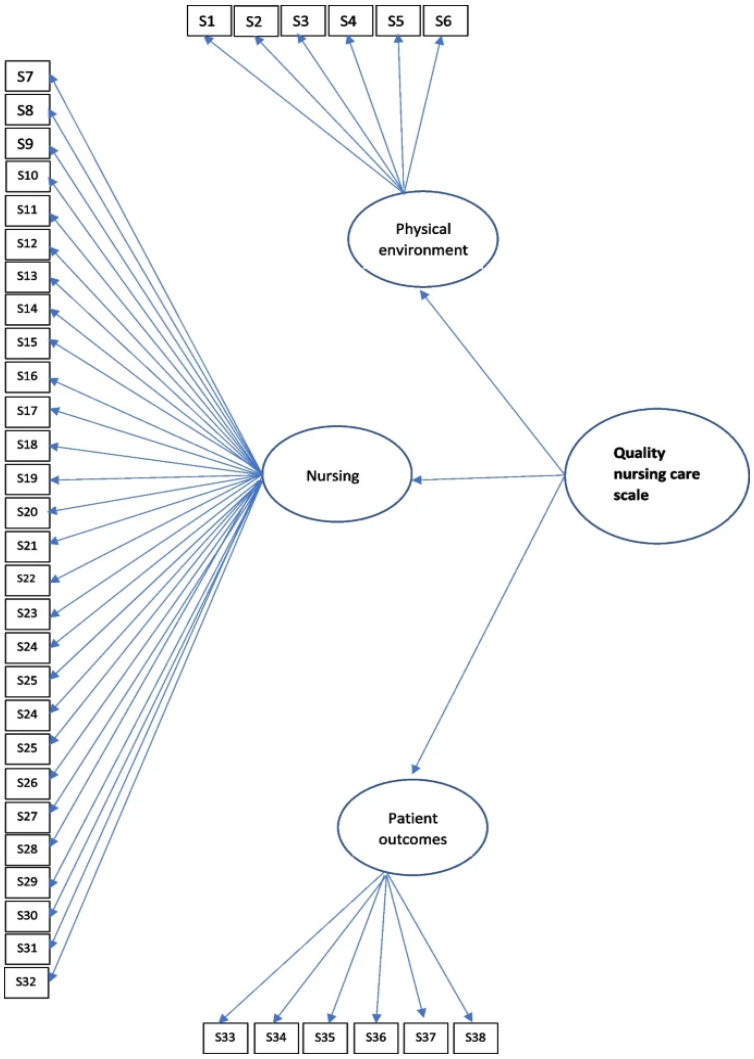

Figure 1. Path diagram of confirmatory factor analysis

Determination of scale internal consistency coefficient for reliability analysis

Cronbach's alpha coefficient of the Turkish version of the Scale was 0.99. The same coefficient for the first subdimension was 0.95, and there were 0.99 for the second and third subdimensions **(Table 4)**.

Table 4. Item total point correlation values of the items

Original version	Cronbach's alpha	Adapted version	Cronbach's alpha
Physical environment	0.90	Physical environment	0.958
Staff characteristics	0.92	Nursing	0.99
Precondition	0.88		
Task orientated activities	0.88		
Human orientated activities	0.89		
Patient outcomes	0.85	Patient outcomes	0.99
Quality Nursing Care Scale	0.96	Quality Nursing Care Scale	0.99

Discussion

The scarcity of instruments that comprehensively assess the quality of nursing care highlights the importance of developing or adapting valid and reliable measurement tools in this field. To date, only a few studies have addressed this need. Among the existing tools, the *Caring Behaviors Inventory-24* [25] was designed to assess the quality and process of nursing care, while another instrument developed by Leinonen *et al.* [26] measures patients' perceptions of perioperative care quality. Later, Lennon *et al.* [27] modified this tool slightly so that it could also be applied to both nurses and patients. The present study aimed to examine the psychometric properties of Liu et al.'s *Quality Nursing Care Scale* (QNC), a 38-item measure that evaluates the quality of nursing care from the nurses' perspective [10].

Assessing the quality of care provided by nurses generates valuable data for preventing errors, minimizing potential patient harm, and identifying risky practices. Therefore, establishing the psychometric soundness of the Turkish version of the QNC was essential. The discussion below addresses the findings related to language equivalence, content validity, item-total correlations, construct validity, and internal consistency reliability.

Language validity

Because translated items may not fully capture the same meanings as in the source language [23, 28], experts were asked to review the Turkish translation of the QNC for conceptual and semantic accuracy. Based on their feedback, minor revisions were implemented to enhance clarity and cultural appropriateness. For instance, certain items were reworded for better comprehension: Item 5 ("I provide a quiet ward environment for patients staying in the hospital"), Item 14 ("I work well with my team [other nurses and healthcare providers]"), Item 16 ("I master the clinical, technical operations to meet the needs of nursing care"), Item 20 ("I can manage drugs well"), and Item 21 ("I intend to help patients whenever the help is needed"). Subsequently, two bilingual academicians independently back-translated the Turkish version into English to ensure conceptual consistency between versions.

Content validity

To assess content validity, the Davis technique—commonly employed in nursing research—was utilized [29]. Both the original and Turkish versions of the items were evaluated by a panel of experts who compared them in terms of meaning, clarity, and grammatical structure. The experts generally rated the Turkish items as "highly appropriate." The lowest Content Validity Ratio (CVR) value was 0.80, which is considered acceptable according to established guidelines [29, 30]. This confirmed that the translated scale adequately represented the construct it intended to measure.

Item–Total correlation analysis

The internal coherence of the scale items was examined through item–total correlation analysis across all 38 items. The results showed that each item demonstrated a strong and consistent relationship with the total scale score, indicating good homogeneity among the items and confirming that all contributed meaningfully to measuring the construct of nursing care quality.

Construct validity

Although confirmatory factor analysis (CFA) is typically recommended for evaluating construct validity in adaptation studies [31], exploratory factor analysis (EFA) was also conducted in this research because the original six-factor model did not adequately fit the Turkish data. Previous studies have emphasized that translated scales may exhibit structural differences due to contextual and cultural factors [23, 32].

In this study, EFA results indicated that the Turkish version of the QNC encompassed three subscales rather than six, as in the original model **(Table 5)**. The *Physical Environment* and *Patient Outcomes* subscales remained unchanged, while the *Staff Characteristics*, *Preconditions*, *Task-Oriented Activities*, and *Human-Oriented Activities* merged into a single new subdomain. A detailed examination of the items suggested that Turkish nurses perceived these aspects as interrelated components of their professional responsibilities and core nursing roles.

The newly formed subdomain was therefore interpreted as representing the essence of direct nursing practice and labeled as **"Nursing."** In contrast, the *Physical Environment* items reflected factors influenced by the broader hospital setting and other staff, while *Patient Outcomes* items corresponded to patient perceptions and care results. The findings suggest that cultural and contextual differences in the perception of nursing roles contributed to the consolidation of multiple domains into a unified "Nursing" factor within the Turkish context.

Table 5. Distrubiton of the items in the original work and Turkish Version

Item Distribution in the Original Scale	Item Distribution in the Turkish Adaptation
Physical Environment (6 items)	**Physical Environment (6 items)**
I ensure patients' rooms are hygienic	I ensure patients' rooms are hygienic

I create a restful setting for patients	I create a restful setting for patients
I maintain proper ventilation in patient rooms	I maintain proper ventilation in patient rooms
I guarantee a secure treatment environment	I guarantee a secure treatment environment
I keep the ward quiet for hospitalized patients	I keep the ward quiet for hospitalized patients
I promptly address any environmental concerns raised by patients	I promptly address any environmental concerns raised by patients
Staff Characteristics (8 items)	**Nursing (26 items)**
I perform nursing tasks with great care	I perform nursing tasks with great care
I strictly adhere to hospital policies	I strictly adhere to hospital policies
I monitor patients closely, tracking disease progression	I monitor patients closely, tracking disease progression
I treat patients with courtesy and warmth	I treat patients with courtesy and warmth
I greet patients with a smile during care	I greet patients with a smile during care
I listen attentively when patients share concerns	I listen attentively when patients share concerns
I explain unclear points to patients repeatedly and patiently	I explain unclear points to patients repeatedly and patiently
I collaborate effectively with colleagues and healthcare team members	I collaborate effectively with colleagues and healthcare team members
Preconditions (7 items)	
I keep my theoretical knowledge current to support nursing care	I keep my theoretical knowledge current to support nursing care
I am proficient in clinical procedures required for care	I am proficient in clinical procedures required for care
I know standard and specialized nursing protocols thoroughly	I know standard and specialized nursing protocols thoroughly
My clinical background strengthens my nursing practice	My clinical background strengthens my nursing practice
I contribute to quality improvement in the ward	I contribute to quality improvement in the ward
I handle medication management competently	I handle medication management competently
I am always ready to assist patients when needed	I am always ready to assist patients when needed
Task-Oriented Activities (6 items)	
I give clear, adequate care information to patients' families	I give clear, adequate care information to patients' families
I clarify billing and cost-related questions for patients	I clarify billing and cost-related questions for patients
I teach patients self-care techniques	I teach patients self-care techniques
I deliver high-quality fundamental nursing care	I deliver high-quality fundamental nursing care
I tailor care to each patient's unique needs	I tailor care to each patient's unique needs
I conduct meaningful health education sessions	I conduct meaningful health education sessions
Human-Oriented Activities (5 items)	
I assess patients' emotions to guide care delivery	I assess patients' emotions to guide care delivery
I offer compassionate, individualized humane care	I offer compassionate, individualized humane care
I encourage patients to stay confident in fighting illness	I encourage patients to stay confident in fighting illness
I ease patients' fears about procedures and treatments	I ease patients' fears about procedures and treatments
I reduce patients' anxiety over their health condition	I reduce patients' anxiety over their health condition
Patient Outcomes (6 items)	**Patient Outcomes (6 items)**
I receive no complaints from patients or families	I receive no complaints from patients or families
I ensure care meets patients' satisfaction standards	I ensure care meets patients' satisfaction standards
I deliver consistently safe services	I deliver consistently safe services
I prevent physical injuries (falls, burns, pressure ulcers)	I prevent physical injuries (falls, burns, pressure ulcers)
I avoid medication errors and adverse reactions	I avoid medication errors and adverse reactions
I protect patients from infections (bacterial, viral, fungal)	I protect patients from infections (bacterial, viral, fungal)

Internal consistency analysis

The reliability of the Turkish version of the scale and its subscales was examined using Cronbach's alpha, a widely accepted indicator of internal consistency for Likert-type instruments [33]. Although acceptable alpha values may vary across studies, a threshold of 0.70 is generally considered the minimum standard for adequate reliability [34–36]. The Cronbach's alpha coefficients obtained for both the overall Turkish scale and its subdimensions were notably high, indicating strong internal consistency and reliability. Moreover, these coefficients exceeded those reported in the original version of the instrument, demonstrating that the adapted scale maintained—and even enhanced—its psychometric robustness in the Turkish context.

Limitations

Despite the methodological rigor of this study, certain limitations should be acknowledged. The research team initially intended to recruit a larger sample and conduct confirmatory and exploratory factor analyses on separate groups to strengthen the validation process. However, due to the demanding work conditions faced by nurses during the COVID-19 pandemic, it was not possible to reach the desired number of participants. This constraint may have limited the generalizability of the findings.

Conclusion

The findings of this study demonstrate that the Turkish version of the *Quality Nursing Care Scale (QNC)* is a valid and reliable instrument for assessing nurses' perceptions of nursing care quality in clinical settings. The psychometric results confirmed that the adapted tool possesses the necessary statistical and conceptual properties to be used confidently in both research and practice in Turkey.

By applying this instrument, nurse managers can better identify institutional challenges, design evidence-based quality improvement programs, and promote more efficient and effective care delivery—potentially leading to both cost savings and improved patient outcomes. Furthermore, the Turkish QNC can serve as a valuable resource for researchers investigating nursing care quality from the perspective of care providers.

Future studies are encouraged to evaluate the test–retest reliability of the scale to establish its temporal stability and further reinforce its psychometric strength.

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References

1. Kim JS. Emotional labor strategies, stress, and burnout among hospital nurses: A path analysis. J Nurs Scholarsh. 2020;52(1):105–12. https://doi. org/10.1111/jnu.12532
2. Samsualam S, Agus A, Amir H. Nurses' caring behavior in hospital: A litera- ture review. STRADA Jurnal Ilmiah Kesehatan. 2021;10(1):225–31. https:// doi.org/10.30994/sjik.v10i1.607
3. World Health Organization-WHO (2021, December 01). Quality of care. Retrieved from https://www.who.int/health-topics/quality-of-care#tab= tab_1 Accessed 15 Nov 2021
4. Kersu Ö, Mert Boğa S, Köşgeroğlu N, Aydın Sayılan A, İlter G, Baydemir C. Determination of the relationship between perception of nursing quality and satisfaction status of patiens hospitalized in surgical ser- vices. J Educ Res Nurs. 2020;17(1):32–9. https://doi.org/10.5222/HEAD. 2020.032
5. Agussalim Asikin M, Nasir M, Podding IT, Alamsyah Rahman. Caring behavior of nurses increase level of client's satisfaction in clinical area. Am J Biomed Sci Res. 2020;10(5):408-17. https://doi.org/10.34297/AJBSR.2020. 10.001544
6. Aldemir K, Gürkan A, Taşkın Yılmaz F, Karabey G. Examination of satisfac- tion from nursing care of inpatients in the surgical clinics. J Health Nurs Manag. 2018;5(3):155–63. https://doi.org/10.5222/SHYD.2018.155
7. Aviles Gonzalez CI, Galletta M, Chessa E, Melis P, Contu P, Jimenez Herrera MF. Caring efficacy: nurses' perceptions and relationships with work- related factors. Acta Biomed. 2019;90(11-S):74–82. https://doi.org/10. 23750/abm.v90i11-S.8684
8. Adnan Y, Kahar H. Effectiveness of nursing caring behavior to the satisfac- tion of hospital patients in Puskesmas Wotu, Afiasi. Jurnal Kesehatan Masyarakat. 2020;5(3):88–95. https://doi.org/10.31943/afiasi.v5i3.103
9. Rysst Gustafsson S, Eriksson I. Quality indicators in telephone nursing: An integrative review. Nurs Open. 2021;8(3):1301–13. https://doi.org/10. 1002/nop2.747
10. Liu Y, Aungsuroch Y, Gunawan J, Sha L, Shi T. Development and psycho- metric evaluation of a quality nursing care scale from nurses' perspective. Nurs Open. 2021;8:1741–54. https://doi.org/10.1002/nop2.816
11. Burhans LM, Alligood MR. Quality nursing care in the words of nurses. J Adv Nurs. 2020;66(8):1689–97. https://doi.org/10.1111/j.1365-2648.2010. 05344.x
12. Arısan Y, Devebakan N. Healthcare workers perceptions of service qual- ity: A study in a state hospital in Izmir. Ataturk Univ J Econ Admin Sci. 2016;30(3):507–25.
13. Lee MA, Yom YH. A comparative study of patients' and nurses' percep- tions of the quality of nursing services, satisfaction and intent to revisit the hospital: a questionnaire survey. Int J Nurs Stud. 2007;44(4):545–55. https://doi.org/10.1016/j.ijnurstu.2006.03.006
14. Lynn MR, McMillen BJ, Sidani S. Including the provider in the assessment of quality care: development and testing of the Nurses' Assessment of Quality Scale - acute care version. J Nurs Care Qual. 2007;22(4):328–36. https://doi.org/10.1097/01.NCQ.0000290414.42640.c0
15. Ryan C, Powlesland J, Phillips C, Raszewski R, Johnson A, Banks- Enorense K, et al. Nurses' perceptions of quality care. J Nurs Care Qual. 2017;32(2):180–5. https://doi.org/10.1097/NCQ.0000000000000211

16. Oldland E, Botti M, Hutchinson AM, Redley B. A framework of nurses' responsibilities for quality healthcare - Exploration of content validity. Collegian. 2020;27(2):150–63. https://doi.org/10.1016/j.colegn.2019.07.007
17. Sharew NT, Bizuneh HT, Assefa HK, Habtewold TD. Investigating admitted patients' satisfaction with nursing care at Debre Berhan Referral Hospital in Ethiopia: A cross-sectional study. BMJ Open. 2018;8(5):e021107. https:// doi.org/10.1136/bmjopen-2017-021107
18. Zhang J, Yang L, Wang X, Dai J, Shan W, Wang J. Inpatient satisfaction with nursing care in a backward region: A cross-sectional study from northwestern China. BMJ Open. 2020;10(9):e034196. https://doi.org/10. 1136/bmjopen-2019-034196
19. Rashvand F, Ebadi A, Vaismoradi M, Salsali M, Yekaninejad MS, Griffiths P, et al. The assessment of safe nursing care: Development and psychomet- ric evaluation. J Nurs Manag. 2017;25(1):22–36. https://doi.org/10.1111/ jonm.12424
20. Hernández Baeza A, Hidalgo Montesinos MD, Hambleton RK, Gómez BJ. International test commission guidelines for test adaptation: A criterion checklist. Psicothema. 2020;32(3):390–8.
21. International Test Commission. The ITC Guidelines for Translating and Adapting Tests. 2nd ed. [Internet]. 2017 [cited 2025 Nov 5]. Available from: https://www.intestcom.org
22. Mokkink LB, Terwee CB, Patrick DL, Alonso J, Stratford PW, Knol DL, et al. The COSMIN checklist for assessing the methodological quality of studies on measurement properties of health status measurement instruments: an international. Delphi study Qual Life Res. 2010;19:539–49.
23. Çapık C, Gözüm S, Aksayan S. Intercultural scale adaptation stages, lan- guage and culture adaptation: Updated guideline. Florence Nightingale J Nurs. 2018;26(3):199–210.
24. Revelle W. Psych: Procedures for Psychological, Psychometric, and Per- sonality Research. [R package]. 2019. https://cran.r-project.org/package= psych
25. Wu Y, Larrabee JH, Putman HP. Caring Behaviors Inventory: a reduction of the 42-item instrument. Nurs Res. 2006;55(1):18–25. https://doi.org/10. 1097/00006199-200601000-00003
26. Leinonen T, Leino-Kilpi H, Ståhlberg MR, Lertola K. The quality of perio- perative care: development of a tool for the perceptions of patients. J Adv Nurs. 2001;35(2):294–306. https://doi.org/10.1046/j.1365-2648.2001. 01846.x
27. Leinonen T, Leino-Kilpi H, Stahlberg MR, Lertola K. Comparing patient and nurses' perceptions of perioperative care quality. Appl Nurs Res. 2003;16(1):29–37. https://doi.org/10.1053/apnr.2003.50005.
28. Heggestad ED, Scheaf DJ, Banks GC, Monroe Hausfeld M, Tonidandel S, Williams EB. Scale adaptation in organizational science research: A review and best-practice recommendations. J Manage. 2019;45(6):2596–627. https://doi.org/10.1177/0149206319850280
29. Yusoff MSB. ABC of content validation and content validity index calcula- tion. Educ Med J. 2019;11(2):49–54. https://doi.org/10.21315/eimj2019.11.2.6
30. Karakoç FY, Dönmez L. Basic Principles of Scale Development. World of Med Educ. 2014;13(40):39–49. https://doi.org/10.25282/ted.228738
31. Kline P. A handbook of test construction (psychology revivals): İntroduc- tion to psychometric design. Routledgeک 2015.
32. Tsai TI, Luck L, Jefferies D, Wilkes L. Challenges in adapting a survey: ensuring cross-cultural equivalence. Nurse Res. 2022;30(2):28–32. https:// doi.org/10.7748/nr.2018.e1581
33. Vaske JJ, Beaman J, Sponarski CC. Rethinking internal consistency in Cron- bach's alpha. Leis Sci. 2017;39(2):163–73. https://doi.org/10.1080/01490 400.2015.1127189
34. Işik E, Fadiloğlu Ç, Demir Y. A study of the reliability and validity of the turkish version of Death Attitude Profile-Revised (DAP-R) in the nurse population. Turkish Journal of Research & Development in Nursing. 2009;11(2):28–43.
35. Tavakol M, Dennick R. Making sense of Cronbach's alpha. Int J Med Edu. 2011;2:53–5. https://doi.org/10.5116/ijme.4dfb.8dfd
36. DeVellis RF. Scale development: Theory and applications. 4. ed., SAGE Publications, 2016.