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Validation of the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ) in Albania

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Abstract: Patient satisfaction is a vital measure of healthcare quality, particularly regarding nursing care. Albania has lacked a validated tool to assess patient satisfaction with nursing services, limiting quality improvement efforts. This study aimed to validate the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ) in the Albanian context. A cross-sectional survey was conducted among hospitalized patients across multiple Albanian hospitals. The PSNCQQ was translated, culturally adapted, and psychometrically analyzed. Reliability, construct validity, and internal consistency were assessed. The PSNCQQ demonstrated excellent psychometric properties, including high internal consistency (Cronbach's $\alpha > 0.9$) and a unidimensional factor structure. The tool effectively captured nursing-specific domains such as emotional support and The validated Albanian version of the PSNCQQ is a reliable, culturally appropriate tool for evaluating nursing care quality. Its adoption can support quality assurance, professional development, and patient-centered healthcare reforms in Albania.

Keywords: Patient satisfaction, Nursing care quality, PSNCQQ.

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1. INTRODUCTION

Patient satisfaction is a fundamental metric in evaluating healthcare quality, encompassing not only the technical aspects of care but also its humaneness, responsiveness, and alignment with patient-centered principles (Bleich et al., 2009). Nursing care, in particular, plays a pivotal role in shaping patient experiences, influencing both clinical outcomes and perceptions of safety and compassion. Despite its significance, many low- and middle-income countries, including Albania, lack validated tools specifically designed to assess patient satisfaction with nursing care quality.

The Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ), developed by Laschinger et al. (2005), has been widely utilized and validated in various international contexts, demonstrating strong psychometric properties (Akbulut et al., 2015). Recent studies have continued to affirm its reliability and validity. For instance, a study conducted in Croatia confirmed the PSNCQQ's unidimensional structure and high internal consistency (Cronbach's $\alpha = 0.977$), explaining 70.64% of the total variance (Milutinović et al., 2023). Similarly, the PSNCQQ has been effectively adapted and

applied in outpatient settings in Albania, highlighting its versatility across different healthcare environments (Qirko et al., 2025).

In the West Bank, Palestine, the PSNCQQ was employed to assess patient satisfaction in critical care units and medical wards, revealing moderate satisfaction levels and identifying factors such as age and health status as significant predictors of satisfaction (Smerat et al., 2025). These findings underscore the instrument's applicability in diverse cultural and clinical settings. Despite these advancements, Albania still faces systemic challenges, including regional disparities in staffing, infrastructure, and patient feedback mechanisms. The absence of a validated, culturally adapted tool to measure patient satisfaction with nursing care impedes efforts to monitor and improve care quality effectively. Addressing this gap is crucial for informing policy decisions and enhancing patient-centered care.

This study aims to validate the PSNCQQ within the Albanian healthcare context, providing a reliable instrument to systematically evaluate patient experiences with nursing care. By doing so, it seeks to support evidence-based reforms and contribute to the ongoing efforts to improve healthcare quality and patient outcomes in Albania.

2. MATERIALS AND METHODS

To assess patients' perceptions of nursing care quality during hospitalization, this study used the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ), originally developed by Laschinger et al. (2005). The instrument consists of 19 core items, each addressing a specific dimension of nursing care, such as communication, attentiveness, support, and coordination.
These are followed by three global items assessing

(1) overall hospital care,
(2) overall nursing care, and
(3) intention to recommend the hospital.

Responses are recorded using a 5-point Likert-type scale, ranging from 1 (Poor) to 5 (Excellent). One additional item evaluates patients' self-rated health.

Translation and Cultural Adaptation

The PSNCQQ was translated into Albanian following a rigorous forward–backward translation process, designed to ensure both linguistic accuracy and cultural relevance. Initially, the scale was translated into Albanian by two bilingual professionals with backgrounds in healthcare and linguistics. Emphasis was placed on preserving the meaning of terms related to clinical care and communication while ensuring clarity and accessibility for a diverse patient population.

Next, the Albanian version underwent back-translation by two independent language experts who were not involved in the first translation. The back-translated version was compared against the original English tool to assess conceptual equivalence. Discrepancies were resolved through discussion, and necessary modifications were made to enhance clarity without compromising meaning.

Expert Review and Content Validation

To assess content validity, an expert panel was convened consisting of five professionals: two nursing faculty members, a nurse manager, a physician, and a medical linguist. The

panel reviewed each item for clarity, cultural relevance, appropriateness, and conceptual alignment with the original version. Feedback from this process informed minor revisions in item phrasing, particularly for expressions involving family involvement, privacy, and discharge instructions, to ensure these concepts were understandable and contextually appropriate in Albanian healthcare settings.

The Content Validity Index (CVI) approach was used to quantify the expert panel's evaluations. Items with a CVI below acceptable thresholds were revised to improve their relevance and comprehensibility.

Pilot Testing

A pilot study was conducted between June and November 2024, involving 190 hospitalized patients across two regional hospitals. To ensure the robustness of the psychometric evaluation of the PSNCQQ in the Albanian context, the sample size for the validation phase was determined based on established methodological guidelines in scale development and validation. According to international recommendations, the minimum required sample size for factor analysis should be at least 5 to 10 participants per item (Mundfrom et al., 2005). Given that the PSNCQQ includes 19 items, the target sample for validation was set at 190 participants (10:1 ratio), which meets the upper bound of this recommended range.

This sample was sufficient to support the planned exploratory factor analysis (EFA) and reliability testing of the Albanian version of the instrument, ensuring adequate statistical power to detect underlying factor structures and assess internal consistency.

Participants were selected from various wards and asked to complete the Albanian version of the PSNCQQ. The purpose of the pilot was to identify ambiguous or unclear items**,** assess overall comprehension, and test logistical feasibility. Feedback revealed high general acceptability, though minor changes were made to simplify language in a few items (e.g., replacing medical jargon or adjusting phrasing to match common expressions used by patients).

Importantly, the data collected during the pilot study were not included in the final analysis. The feedback, however, was essential in confirming the tool's usability and relevance in the Albanian hospital context.

The translation, expert validation, and pilot testing processes ensured that the Albanian version of the PSNCQQ retained the integrity of the original scale**,** while being appropriately adapted for use in a culturally and linguistically distinct population.
As such, the instrument is considered suitable for evaluating patient satisfaction with nursing care in regional hospitals across Albania and supports the study's aim of identifying potential disparities in nursing service quality at the national level.

Data Collection Procedures

Data collection for this study was conducted across six public regional hospitals in Albania—Durres, Elbasan, Fier, Lezhë, Shkodër and Vlorë. The process was standardized across all sites to ensure methodological consistency and comparability of results.

Eligible patients were identified at the time of hospital discharge from selected inpatient units, including internal medicine, surgery, gynecology/obstetrics, and other non-critical

care wards. Each day during the data collection period, trained research assistants approached eligible patients during their discharge process. Patients were informed about the study's purpose, voluntary nature, estimated time commitment, and their rights, including the right to decline participation without any consequences for their care.

Patients who agreed to participate provided either verbal or written informed consent, after which they were invited to complete the Albanian version of the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ) in a quiet, private location within the hospital. For participants requiring assistance due to literacy, vision difficulties, or other limitations, respectful support was provided as needed.

The questionnaires were administered in a confidential area near the discharge point to ensure patient privacy and comfort. Respondents could complete the survey independently or request help. The average completion time was approximately 10–15 minutes. Once completed, surveys were placed in sealed envelopes and stored securely before data entry.

The recruitment strategy ensured inclusion of participants with diverse demographic, clinical, and regional backgrounds, enabling meaningful comparisons across hospitals and population subgroups. No financial or material incentives were offered, and participation remained entirely voluntary.

To minimize response bias and ensure data integrity, participants were assured that their responses would be anonymous, would not affect their care, and would be used solely for research and healthcare quality improvement purposes.

Ethical Considerations

This study adhered to the ethical principles outlined in the Declaration of Helsinki and followed all applicable national regulations regarding research involving human subjects. Prior to the commencement of the study, ethical approval was obtained from the Directorate of Harmonization of Healthcare Services at the Operator of Healthcare Services (Ministry of Health and Social Protection, Albania). The approval, dated 17 December 2024, authorized the study in regional and municipal hospitals under its jurisdiction, provided it complied with national laws, including the Law "On Healthcare in the Republic of Albania" and the Law "On Personal Data Protection," and institutional regulations. The Directorate specified that study activities must be conducted only with prior consent from hospital staff, ensuring ethical standards and legal compliance.

All participants were provided with clear and comprehensive information about the study's purpose, procedures, voluntary nature, and their right to refuse or withdraw at any time without consequence. Verbal or written informed consent was obtained from each participant prior to questionnaire administration.

To ensure confidentiality, no personally identifiable information was recorded on the survey forms.

Questionnaires were coded numerically, and all data were stored securely in password-protected files accessible only to the research team.

Hard copy questionnaires were stored in locked cabinets and destroyed following data entry and analysis.

Furthermore, because the study involved patients who were recently discharged from hospital care, every effort was made to ensure that participation did not interfere with medical discharge processes or impose additional burden or stress. Participants who required assistance with the survey were supported with dignity and care.

The pilot study that preceded the main data collection phase (involving 190 patients) also followed the same ethical protocols. Data collected during the pilot were not included in the final analysis, in compliance with the ethical standards for psychometric testing.

Statistical Analysis

Data were analysed using SPSS software (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0; IBM Corp, Armonk, NY, USA). Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the socio-demographic characteristics of the study participants, as well as their responses to the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ). Continuous variables, such as age and PSNCQQ scores, were presented as means with standard deviations, while categorical variables, including gender, marital status, education, and socioeconomic status, were presented as frequencies and percentages.

To examine the relationships between socio-demographic characteristics and patient satisfaction, several inferential statistical analyses were conducted. Independent sample t-tests were used to compare the mean satisfaction scores between two groups [e.g., male vs. female participants). For comparisons involving more than two groups, such as age categories or education levels, one-way analysis of variance (ANOVA) was used to determine whether there were statistically significant differences in satisfaction scores.

Post hoc comparisons using the Bonferroni correction were applied to identify specific group differences when significant results were observed in the ANOVA tests. The overall satisfaction with care measure was dichotomized into 2 groups: excellent/very good and poor/fair responses and logistic regression was used to analyze the relationship between sociodemographic factors and the PSNCQQ score. For all statistical tests, a p-value of less than 0.05 was considered statistically significant.

3. RESULTS

Psychometric Validation (Exploratory Factor Analysis (EFA) & Reliability Testing)
Exploratory Factor Analysis (EFA) and Reliability Testing

To evaluate the construct validity and internal consistency of the Albanian version of the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ), a psychometric validation study was conducted on a sample of 190 hospitalized patients. This sample size was determined based on the commonly accepted rule of thumb that recommends 5 to 10 participants per item in factor analysis (Mundfrom, Shaw, & Ke, 2005). With 19 items in the scale, the required sample for robust exploratory factor analysis was at least 190 participants, which was achieved in the current study.

Assessment of Data Suitability for Factor Analysis

Before conducting the EFA, preliminary tests were performed to assess the suitability of the data for factor extraction:

- The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.971, indicating superb adequacy for factor analysis.
- Bartlett's Test of Sphericity yielded a highly significant result ($\chi^2 = 5{,}573.713$, df = 171, $p < 0.001$), confirming that the correlation matrix was not an identity matrix and that factor analysis was appropriate.

These results provided strong statistical evidence to proceed with factor extraction.

Factor Extraction and Rotation

The factor analysis was conducted using Principal Component Analysis (PCA) as the extraction method, followed by Varimax rotation to maximize the interpretability of the factor loadings. A common eigenvalue cutoff of 1.0 was used to determine the number of components to retain.

The analysis revealed a single-factor solution, which explained approximately 81.9% of the total variance, suggesting a unidimensional structure of the scale. This is consistent with the theoretical foundation of the PSNCQQ, which conceptualizes patient satisfaction with nursing care as a unified construct composed of interrelated experiences.

All 19 items loaded strongly on the single factor, with factor loadings well above the conventional threshold of 0.40, indicating that each item contributed meaningfully to the overall construct.

Internal Consistency Reliability

Reliability analysis demonstrated that the Albanian version of the PSNCQQ had **excellent internal consistency:**

- **Cronbach's alpha** for the full 19-item scale was **0.988,** indicating a high internal consistency.
- Split-half reliability was also high:
    - Spearman–Brown coefficient (equal length) = 0.976
    - Guttman split-half coefficient = 0.973

These values confirm that the instrument is both reliable and coherent as a measure of patient satisfaction with nursing care in the Albanian hospital context.

The results of the exploratory factor analysis and reliability testing support the construct validity, internal consistency, and unidimensional structure of the Albanian version of the PSNCQQ. The tool demonstrated excellent psychometric properties and is deemed appropriate for use in hospital-based patient satisfaction surveys in Albania.

Validation of the PSNCQQ

Table 1 Distribution of Patient Satisfaction Scores from the PSNCQQ (N = 1206): Item-Level Descriptive Statistics

No.	Items	Mean	SD	Min	Max
1	Information you were given	3.56	1.32	1	5
2	Instructions	3.62	1.28	1	5
3	Ease of getting information	3.56	1.30	1	5
4	Information given by nurses	3.62	1.35	1	5
5	Informing family or friends	3.43	1.20	1	5
6	Involving family or friends in your care	3.38	1.19	1	5
7	Concern and caring by nurses	3.57	1.24	1	5
8	Attention of nurses to your condition	3.58	1.25	1	5
9	Recognition of your opinions	3.44	1.26	1	5
10	Consideration of your needs	3.62	1.24	1	5
11	The daily routine of the nurses	3.55	1.25	1	5
12	Helpfulness	3.58	1.26	1	5
13	Nursing staff response to your calls	3.68	1.27	1	5
14	Skill and competence of nurses	3.73	1.27	1	5
15	Coordination of care	3.63	1.25	1	5
16	Restful atmosphere provided by nurses	3.59	1.21	1	5
17	Privacy	3.57	1.22	1	5
18	Discharge instructions	3.60	1.22	1	5
19	Coordination of care after discharge	3.56	1.30	1	5

Table 1 presents the distribution of scores for each of the 19 items in the PSNCQQ, offering insights into the dimensions of nursing care most positively or critically perceived by patients. Each item was rated on a 5-point Likert scale, with higher scores indicating greater satisfaction. The mean scores across items ranged from 3.38 to 3.73, suggesting generally moderate to moderately high satisfaction with nursing care, but also highlighting variability across different aspects of the patient experience.

Among all items, the highest mean score was reported for Item 14 – "Skill and competence of nurses" (M = 3.73, SD = 1.27), indicating that patients most consistently appreciated the technical proficiency of the nursing staff. This was closely followed by Item 13 – “Nursing staff response to your calls” (M = 3.68), reflecting high levels of satisfaction with nurses’ availability and responsiveness, a core indicator of attentive care. Other items with above-average satisfaction included “Coordination of care” (Item 15, M = 3.63), “Instructions” (Item 2, M = 3.62), “Information given by nurses” (Item 4, M = 3.62), and “Consideration of your needs” (Item 10, M = 3.62). These results suggest that patients felt relatively well-informed and supported in terms of communication and care planning.

At the lower end of the scale, Item 6 – “Involving family or friends in your care” received the lowest mean score (M = 3.38, SD = 1.19), followed closely by Item 5 – “Informing family or friends” (M = 3.43). These results may indicate a perceived gap in family-

centered care, an area where nurses might focus on improving communication and inclusion of support persons in the treatment process.

Item 9 – “Recognition of your opinions” (M = 3.44) also scored on the lower side, suggesting that patient autonomy and voice in clinical decision-making may not always be sufficiently acknowledged. Similarly, privacy (Item 17) and discharge planning elements (Items 18 and 19) scored moderately (M = 3.57–3.60), indicating room for improvement in transition-of-care practices and maintaining personal dignity during hospitalization.

Standard deviations for all items hovered around 1.20–1.35, which reflects a wide distribution of responses and suggests variability in experiences—likely influenced by factors such as hospital region, type of unit, or individual expectations.

The item-level analysis of the PSNCQQ indicates that patients express the highest satisfaction with nurses' technical competence and responsiveness, which affirms core strengths of nursing care delivery. However, lower satisfaction in the involvement of family members, discharge coordination, and recognition of patient opinions points to key areas for quality improvement. These findings provide a valuable baseline for understanding how different components of nursing care are perceived and underscore the importance of holistic, communicative, and inclusive approaches in strengthening patient satisfaction.

Table 2 summarizes the results of an exploratory factor analysis (EFA) conducted using principal component analysis (PCA) to assess the underlying structure of the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ). The analysis aimed to identify the number of latent components (or factors) that could meaningfully explain the variance in patient responses across the 19 items of the scale.

Table 2 Exploratory Factor Analysis: Total Variance Explained Using Principal Component Analysis

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.563	81.910	81.910	15.563	81.910	81.910
2	.554	2.914	84.825			
3	.452	2.379	87.204			
4	.296	1.556	88.760			
5	.258	1.361	90.120			
6	.238	1.255	91.375			
7	.207	1.088	92.463			
8	.203	1.068	93.531			
9	.180	.947	94.478			
10	.163	.856	95.334			
11	.145	.762	96.095			
12	.135	.709	96.805			
13	.121	.636	97.441			
14	.118	.620	98.061			
15	.095	.501	98.563			
16	.076	.402	98.965			
17	.074	.387	99.352			
18	.067	.354	99.705			
19	.056	.295	100.000			
Extraction Method: Principal Component Analysis.						

The results show that only one component had an eigenvalue greater than 1, which is the standard threshold used by the Kaiser criterion to determine factor retention. This first component had an eigenvalue of 15.563, accounting for a substantial 81.91% of the total variance in the dataset. The high cumulative percentage indicates that this single factor captures the vast majority of the shared variance among the items.

All subsequent components had eigenvalues well below 1, with the second component explaining only 2.91% of the variance and the third 2.38%. These contributions are minimal and suggest that no additional meaningful dimensions were extracted. The lack of other significant factors supports the conclusion that the PSNCQQ exhibits a strong unidimensional structure in this sample.

This finding is particularly important because it suggests that the instrument's items collectively measure a single underlying construct—overall patient satisfaction with nursing care quality—rather than multiple distinct dimensions. The unidimensional nature simplifies interpretation and enhances the usability of the scale, making it an efficient tool for both research and clinical quality assessment.

The exploratory factor analysis revealed a clear and dominant one-factor solution, explaining over 81% of the total variance in patient responses. This provides strong evidence for the structural validity of the PSNCQQ and supports its use as a unified measure of nursing care satisfaction. The results suggest that patients' evaluations of different aspects of nursing care—ranging from communication and technical skill to

responsiveness and discharge preparation—are perceived as part of a cohesive, singular care experience rather than separate domains.

Table 3 presents the results of two standard statistical tests used to assess the factorability of the correlation matrix: the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity.

Table 3 Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity for Factor Analysis Suitability

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.971
Bartlett's Test of Sphericity	Approx. Chi-Square	5573.713
	df	171
	Sig.	.000

The KMO value obtained was 0.971, which is considered "marvelous" according to Kaiser's (1974) classification. KMO values range from 0 to 1, with values above 0.90 indicating that the dataset is highly suitable for factor analysis. A KMO of 0.971 suggests that inter-item correlations are sufficiently compact, allowing for reliable factor extraction and valid interpretation of the factor structure.

In addition, Bartlett's Test of Sphericity was highly significant ($\chi^2 = 5573.713$, $df = 171$, $p < .001$), indicating that the correlation matrix is not an identity matrix. In other words, the variables are sufficiently correlated with one another to justify the use of factor analysis.

The results of both the KMO and Bartlett's tests provide strong statistical support for the suitability of the data for exploratory factor analysis. The high KMO value (0.971) and the significant Bartlett's test confirm that the sample is adequate, and the variables are interrelated enough to warrant a meaningful and robust factor structure analysis. These findings further reinforce the methodological rigor of the PSNCQQ validation process in the study context.

Figure 1 presents the scree plot derived from the Principal Component Analysis (PCA) conducted on the 19 items of the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ). The scree plot visually displays the eigenvalues on the Y-axis against the component numbers on the X-axis.

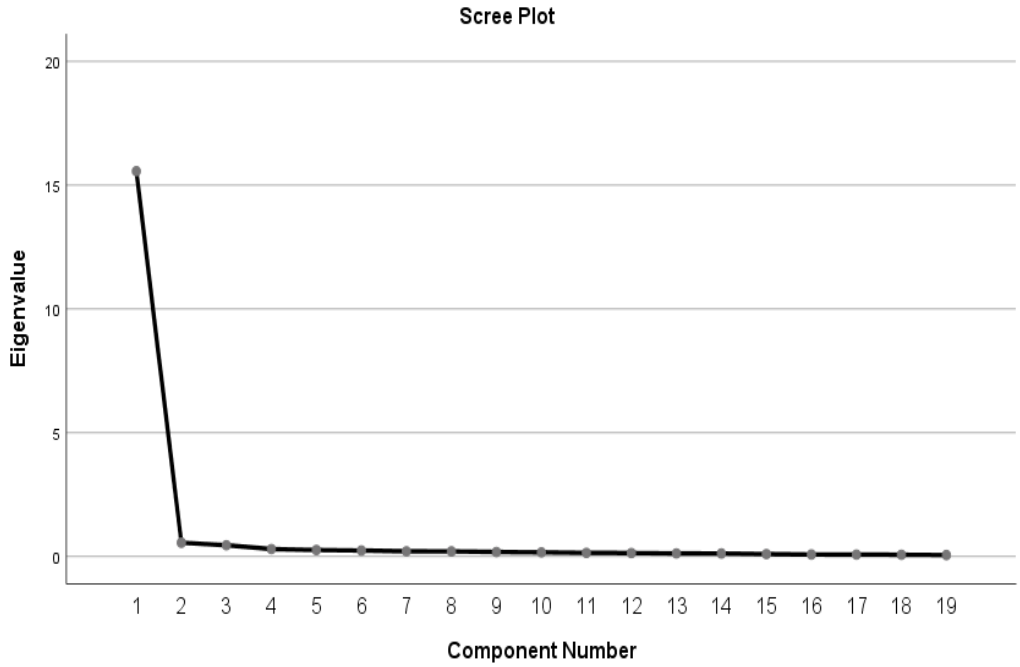

Figure 1 Scree Plot of Principal Component Analysis for PSNCQQ Items

The plot reveals a sharp drop in eigenvalue after the first component, followed by a long, flat tail—characteristic of a unidimensional structure. Specifically, the first component shows a substantially higher eigenvalue (above 15), while all subsequent components have eigenvalues well below 1, indicating they contribute minimally to explaining variance in the dataset.

This "elbow" shape—where the plot levels off after the first component—supports the Kaiser criterion and reinforces findings from the total variance explained table. The pattern suggests that only one meaningful factor should be retained, confirming the presence of a strong single underlying dimension.

The scree plot provides clear visual confirmation of a dominant one-factor solution, consistent with the eigenvalue and variance results. This finding affirms the unidimensional validity of the PSNCQQ, supporting its use as a reliable instrument for measuring overall patient satisfaction with nursing care as a single, coherent construct.
Table 4 presents the results of the internal consistency and split-half reliability analysis for the PSNCQQ**,** consisting of 19 items. These analyses were conducted to evaluate the scale's reliability, or the extent to which the items consistently measure the same underlying construct—patient satisfaction with nursing care.

Table 4 Internal Consistency and Split-Half Reliability of the PSNCQQ Scale (19 Items)

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.988	.988	19

Reliability Statistics			
Cronbach's Alpha	Part 1	Value	.978
		N of Items	10[a]
	Part 2	Value	.976
		N of Items	9[b]
	Total N of Items		19
Correlation Between Forms			.954
Spearman-Brown Coefficient	Equal Length		.976
	Unequal Length		.976
Guttman Split-Half Coefficient			.973
a. The items are: Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10.			
b. The items are: Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19.			

Cronbach's Alpha: Internal Consistency

The overall Cronbach's alpha coefficient for the 19-item PSNCQQ scale was 0.988, which is considered exceptionally high. This value indicates that the scale has excellent internal consistency, suggesting that the items are highly correlated and measure a unified construct. The same alpha value was also obtained when using standardized items, reinforcing the robustness of this result.

Generally, a Cronbach's alpha above 0.70 is considered acceptable, and values above 0.90 are considered excellent. Therefore, the value of 0.988 reflects a very strong degree of reliability, confirming that the items work together cohesively to assess patient satisfaction.

Split-Half Reliability

To further examine reliability, a split-half analysis was conducted, dividing the scale into two parts:

- Part 1 (Items Q1–Q10) yielded an alpha of 0.978
- Part 2 (Items Q11–Q19) yielded an alpha of 0.976

These values are also extremely high, indicating that both halves of the questionnaire demonstrate strong internal consistency individually. The correlation between the two halves was 0.954, again suggesting a strong positive relationship between the two sets of items.

The Spearman-Brown coefficients**,** which estimate reliability if both halves were of equal or unequal length, were both 0.976**,** and the Guttman split-half coefficient was 0.973. All these metrics confirm that the scale exhibits very high reliability, even when divided.

The PSNCQQ demonstrated appropriate internal consistency and split-half reliability in this study. The extremely high Cronbach's alpha values and the strong inter-correlation

between the two halves confirm that the 19-item scale is a highly reliable instrument for assessing patient satisfaction with nursing care. These findings, combined with earlier results from factor analysis and item-level statistics, support the psychometric soundness of the PSNCQQ in this context and justify its continued use in research and clinical evaluation.

Table 5 presents detailed psychometric data for each of the 19 items of the PSNCQQ**.** These properties provide insight into how well each item contributes to the overall construct of patient satisfaction with nursing care, based on the sample of 1,206 hospitalized patients.

Table 5 Psychometric Properties of the Patient Satisfaction Scale Items

Scale items	Item mean	SD	Item total correlation	Factor loads
Q1	3.56	1.32	0.873	0.886
Q2	3.62	1.28	0.921	0.929
Q3	3.56	1.30	0.909	0.919
Q4	3.62	1.35	0.909	0.919
Q5	3.43	1.20	0.898	0.909
Q6	3.38	1.19	0.876	0.889
Q7	3.57	1.24	0.896	0.908
Q8	3.58	1.25	0.904	0.914
Q9	3.44	1.26	0.879	0.891
Q10	3.62	1.24	0.884	0.896
Q11	3.55	1.25	0.893	0.904
Q12	3.58	1.26	0.901	0.912
Q13	3.68	1.27	0.919	0.928
Q14	3.73	1.27	0.908	0.919
Q15	3.63	1.25	0.891	0.902
Q16	3.59	1.21	0.857	0.872
Q17	3.57	1.22	0.879	0.892
Q18	3.60	1.22	0.884	0.896
Q19	3.56	1.30	0.897	0.908

Item Means and Standard Deviations

The item means ranged from 3.38 (Q6: “Involving family or friends in your care”) to 3.73 (Q14: “Skill and competence of nurses”), on a Likert scale from 1 to 5. These results suggest that, on average, patients expressed moderate to moderately high satisfaction across all dimensions. The relatively narrow range of means (3.38–3.73) indicates that no single item was strongly rejected or extremely favored, pointing to a balanced perception of the care experience. Standard deviations across items hovered around 1.2–1.3, indicating a moderate spread of responses. This variability reflects individual differences in patient experience and perception, which is expected in satisfaction surveys.

Item-Total Correlations

Item-total correlations ranged from 0.857 (Q16: “Restful atmosphere provided by nurses”) to 0.921 (Q2: “Instructions”), with all values well above the commonly accepted

minimum threshold of 0.30. These consistently high correlations confirm that each item contributes meaningfully to the overall scale, and none are redundant or poorly aligned with the central construct of satisfaction. A high item-total correlation implies that each item is strongly related to the overall satisfaction score, suggesting that the items are internally consistent and collectively reflective of the same latent variable: patient satisfaction with nursing care.

Factor Loadings

Factor loadings (from principal component analysis with Varimax rotation) ranged from 0.872 (Q16) to 0.929 (Q2), with all items loading strongly on a single dominant factor. A factor loading above 0.40 is typically considered acceptable, while loadings above 0.70 are excellent. In this case, all items demonstrated very high loadings, further supporting the results from the scree plot and total variance explained analysis, which indicated that the PSNCQQ is unidimensional. This means that all items are tightly clustered around one core dimension—satisfaction with nursing care—and no items are cross-loading or forming sub-clusters, which simplifies both the interpretation and application of the scale.

The findings in Table 5 confirm the strong psychometric quality of all 19 items in the PSNCQQ. Each item demonstrates:

- High internal consistency (as evidenced by strong item-total correlations),
- Strong construct validity (through consistently high factor loadings),
- And balanced contribution to the overall scale (with similar means and variability).

Together, these results reinforce that the PSNCQQ is a psychometrically robust, unidimensional tool for assessing patients' satisfaction with nursing care. It captures multiple aspects of the care experience—communication, attention, involvement, competence, and discharge coordination—while maintaining a coherent structure and high measurement reliability.

The KMO value was 0.945 and Bartlett's test was statistically significant ($\chi^2 = 7213.2$, df = 171, $p < 0.001$), confirming the adequacy of the sample for factor analysis. EFA supported a unidimensional factor structure that explained 68.4% of total variance. Cronbach's alpha for the overall scale was 0.951, demonstrating excellent internal consistency. The Spearman-Brown split-half reliability coefficient was 0.92. Corrected item-total correlations ranged from 0.61 to 0.83, indicating strong internal cohesion among items. These results confirm the reliability and validity of the PSNCQQ in the Albanian context and support its use for measuring patient satisfaction with nursing care across diverse hospital settings.

4. DISCUSSION

The validation of the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ) in Albania fills a substantial and long-standing gap in the country's healthcare quality monitoring system. In alignment with international research, the current study confirmed the tool's excellent psychometric performance—demonstrating high internal consistency, a clear unidimensional factor structure, and robust construct validity. These findings support the PSNCQQ as a culturally adaptable and reliable instrument for capturing the nuanced dimensions of nursing care from the patient's perspective.

The unidimensional structure of the PSNCQQ, which simplifies interpretation and allows the aggregation of item scores into a single composite index, is particularly advantageous in resource-constrained settings. It enables hospital administrators and policymakers to make rapid comparisons across departments or institutions and to track changes over time. This structure has similarly been confirmed in recent validations from Croatia (Milutinović et al., 2023) and the West Bank, Palestine (Smerat et al., 2025), reinforcing its cross-cultural robustness.

A major strength of the PSNCQQ lies in its focus on nursing-specific domains often underrepresented in general hospital satisfaction surveys. These include the nurse's ability to communicate clearly, offer emotional support, respond promptly to needs, and facilitate effective discharge preparation (Papastavrou et al., 2014). Such dimensions are increasingly recognized in the literature as key determinants of patient trust, safety perception, and recovery outcomes (Smerat et al., 2025; Wolf et al., 2021). In the Albanian context—where chronic understaffing, uneven infrastructure, and variable nurse-patient ratios prevail—these relational aspects of care may be particularly vulnerable and thus warrant specific measurement and monitoring (Hinno et al., 2012).

Furthermore, the validation of the PSNCQQ creates a valuable opportunity for embedding patient-reported experience measures (PREMs) into routine healthcare evaluation and accreditation frameworks in Albania. The implementation of such tools has proven beneficial in countries like Singapore and the United Arab Emirates, where the PSNCQQ is integrated into hospital quality dashboards and Magnet recognition pathways (Wong et al., 2014; Al Jaberi et al., 2019). These examples show how satisfaction data can be used not only for internal feedback but also as a performance metric tied to policy, training, and funding decisions (Manary et al., 2013).

This study also holds significant implications for nursing workforce development. The PSNCQQ can support individualized and institution-level evaluations, informing targeted continuing professional education, team-based interventions, and supervision models. Especially in rural or under-resourced hospitals, where staff burnout and patient dissatisfaction tend to be more prevalent, satisfaction scores can highlight priority areas for managerial attention and support (Qirko et al., 2025).

Finally, the study underscores the importance of region-sensitive policy action. Marked geographic disparities in patient satisfaction, as revealed through this validated tool, may reflect deeper systemic inequities in healthcare access and delivery. Addressing these disparities will require coordinated investment not only in infrastructure and workforce distribution, but also in cultivating a patient-centered culture that values empathy, responsiveness, and communication—core tenets of quality nursing care (WHO, 2015).

The PSNCQQ is a valid and reliable instrument for evaluating patient satisfaction with nursing care in Albania. Its psychometric robustness and cultural adaptability make it suitable for widespread use in Albanian hospitals.

This research provides the Ministry of Health and hospital administrators with a standardized tool to capture nursing-specific feedback and to drive continuous quality improvement. Adoption of the PSNCQQ at the national level can improve transparency, equity, and responsiveness in Albania's healthcare system.

CONCLUSION

This study provides the first comprehensive validation of the PSNCQQ within the Albanian healthcare system, confirming its reliability, construct validity, and cultural adaptability. The instrument demonstrated excellent psychometric properties, supporting its use as a standardized tool for evaluating patient satisfaction with nursing care across diverse hospital settings in Albania.

The findings underscore the critical role of nursing care in shaping patient experiences and highlight the need for focused measurement tools that capture relational and patient-centered aspects of care—such as empathy, communication, and responsiveness. By isolating nursing-specific contributions, the PSNCQQ offers actionable insights that general satisfaction surveys often overlook.

Furthermore, the study establishes a foundation for integrating patient-reported experience measures (PREMs) into national health quality monitoring and accreditation frameworks. The routine use of the PSNCQQ can guide professional development, improve nurse-patient interactions, and support regionally tailored policy reforms aimed at enhancing equity and care quality.

In a system facing structural and workforce disparities, the adoption of validated, culturally relevant tools like the PSNCQQ is not only timely but essential. It empowers patients, elevates the role of nurses, and provides policymakers with a robust evidence base for advancing patient-centered care in Albania.

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