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Research paper

Level of satisfaction of critical care patients regarding the nursing care received: Correlation with sociodemographic and clinical variables

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ABSTRACT

Background: The satisfaction of critical care patients regarding the nursing care received is a key indicator of the quality of hospital care. It is, therefore, essential to identify the factors associated with the level of satisfaction of critical care patients.
Objectives: To analyse the level of satisfaction of critical care patients in relation to the nursing care received and to determine the relationship between the level of satisfaction and the sociodemographic and clinical variables.
Methods: This is a prospective and descriptive correlational study. The population were all patients discharged (January 2013 to January 2015) from three intensive care units of a third-level hospital (n = 200). The data on the satisfaction level were collected using the previously validated Nursing Intensive-Care Satisfaction Scale, and the sociodemographic and clinical data were recorded by means of a questionnaire.
Results: Mean participants' age in the study (n = 200) was 65.9 years (standard deviation 13.4 years), with a 66% proportion of men (n = 132). There was a very high level of satisfaction regarding the nursing care received during the patients' stay in the intensive care unit, with a rating of 5.73 (standard deviation 0.41). There is no correlation between the level of satisfaction and the sociodemographic variables collected. However, there were statistically significant differences in the average score of the overall level of satisfaction (rho = 0.182, p = 0.010) with respect to the perception of the state of health.
Conclusion: Critical care patients expressed very high rates of satisfaction, for both the scale as a whole and each of the factors. A high level of satisfaction is strongly influenced by the perception of the state of health.

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1. Introduction

Most authors emphasise that patient satisfaction with nursing care is the aspect that best reflects satisfaction with hospitalisation[1–4] and is the main component of health maintenance and rehabilitation.[5] Consequently, patient satisfaction with nursing care has become a key determinant of the quality of hospital care.[6,7]

However, a systematic review of the conceptualisation of patient satisfaction concludes that the concept of satisfaction needs to be defined without using marketing-based theories,[8] taking into account that it is a complex and multidimensional concept with numerous determining factors.[7,9–14] To conceptualise and theorise the construct of patient satisfaction with nursing care, from the personal experience of the perspective of the critical care patient (CCP), a qualitative study based on the Grounded Theory method was performed. The four dimensions that emerged from the participants' interviews built the Multifactorial Model of Nursing Intensive-Care Satisfaction (MM-NICS).[15] Patients admitted to intensive care units (ICUs) consider that nursing care is satisfactory when it is characterised by the combination of humanistic and scientific approaches, provided continuously, and designed to provide patients with certainty, wellbeing, and confidence.[15,16]

CCPs do not only have biological and physical requirements but also needs related to their personal history, experiences, values, beliefs, and culture.[17] For this reason, care must ensure physical safety in a personalised, humane, and ethical manner, making use of technological knowledge and psychological, spiritual, and social assurance, designed to understand people in a holistic way.[15,16] Therefore, to provide quality care, competences related with interpersonal skills, verbal, and nonverbal communication ability and attitudes need to be acquired, within the framework of a more empathic paradigm to treat the person with a fully subjective approach.[18–20]

Nursing care is directed and focused on the patient. Satisfaction with care is an important indicator that measures the quality of provided care.[12] For this reason, basing measurement of care quality on the degree of satisfaction expressed by users is a tool that can provide the user with the wellbeing they need from the interaction established with the user and their family. Questionnaires are the most used method to measure quality or satisfaction with nursing care.

There are several instruments used to determine the level of user satisfaction with nursing care, which are notable in terms of their widespread recognition or acceptance: the Risser Patient Satisfaction Scale,[21] the Monica–Oberst Patient Satisfaction Scale,[22] the Caring Assessment Instrument,[23,24] the Service Quality,[25] the Newcastle Satisfaction with Nursing Scale,[26,27] the Patient Satisfaction with Nursing Care Quality Questionnaire,[28] the Consumer Emergency Care Satisfaction Scale,[29] the Patient's Assessment of Quality Scale–Acute Care Version,[30] and the Nursing Intensive-Care Satisfaction Scale (NICSS).[31] However, only the NICSS gauges satisfaction from the perspective of critically ill patients.[31,32]

Moreover, several studies[1,30–39] have explored the relation between satisfaction and sociodemographic and clinical variables, including age, gender, the length of time in the ICU, level of education, employment status, and the perception of the state of health. The results were contradictory and inconclusive.[40] In addition, systematic reviews also report that the effect of sociodemographic and clinical variables is misleading, with the exception of the positive association shown by age with the level of satisfaction.[9,10]

For this reason, if satisfaction with nursing care is assessed from the patient's perspective in a way that can measure both the overall level and specific dimensions, as well as identify sociodemographic and clinical variables associated with the level of satisfaction, strategies can be designed to improve the quality of care in ICU.

The objective of the study was to analyse the level of satisfaction of CCPs in relation to the nursing care received and to examine the relationship between the level of satisfaction and the sociodemographic and clinical variables.

2. Method

2.1. Study design

This was a prospective and descriptive correlational study.

2.2. Study population and recruitment

The study was performed in a third-level hospital with three ICUs for adults (general, coronary, and cardiac surgery) with 32 individual cubicles (10, 10, and 12 respectively) and a nurse/patient ratio of 1:2. The study group included all patients who had been discharged from the ICU between January 2013 and January 2015.

More than 80% of people are satisfied.[10] Consequently, this proportion was used as a reference to calculate the size of the sample. Accepting a risk $\alpha = 0.05$ and a risk $\beta < 0.2$ in a bilateral contrast, to be able to detect a difference of ≥ 0.08 units,[10] 200 individuals will be needed. The proportion in the reference group is assumed to be 0.2.

Consecutive sampling was used. The inclusion criteria included the following: (1) oriented to person, place, and time and (2) able to speak, read, and write in one of the two official languages. Exclusion criteria included the following: (1) discharged to another hospital and (2) discharged directly to home.

After the patient was discharged from the ICU, the author explained the purpose of the study and the method of investigation to the patient in the patient's hospital ward. The research team conducted data collection after obtaining their consent and signatures on the study's informed consent form.

2.3. Data collection

Two self-reported instruments were used for data collection. First instrument contained 10 questions to compile sociodemographic data (age, sex, marital status, employment status, and level of education) and clinical data (the number of days in the ICU, reason for admission to the ICU, previous admission in the ICU, patients' perception of their state of health, and perception of the degree of recovery at the time of completing the questionnaire). Perception of their health status was evaluated using a Likert-type scale with 10 optional answers, from bad (1) to excellent (10); and perception of the degree of recovery, from I have not improved anything (1) to I have recovered completely (10).

Second instrument was the NICSS, which evaluates the satisfaction of CCP regarding the nursing care received during their stay in the ICU.[31] The NICSS is a self-reported 49-item scale comprising four factors (F): holistic care, communication modes, professional behaviours, and consequences, established by the MM-NICS.[15] The first three factors refer to the patients' experience in relation to the nursing care received with a total of 37 items, of which 20 correspond to F1: holistic care, which considers physical and psychoemotional aspects of the care; six items belong to F2: communication modes, which include both verbal and nonverbal communication; and 11 items correspond to F3: professional behaviours. F4: consequences refer to the feelings and emotional experiences undergone as a result of receiving nursing care and has a total of 12 items. All items have a six-point Likert scale response option (1 = strongly disagree to 6 = strongly agree). NICSS scores are obtained by averaging applicable items. Ranges of clinical significance

for NICSS scores are the following: 1–3.5 (dissatisfied) and >3.5–6 (satisfied).

NICSS obtained a high reliability for the overall instrument (Cronbach's alpha 0.95) and the four subscales (Cronbach's alpha ranging from 0.70 to 0.91) indicating a very good internal consistency. A confirmatory factor analysis was used to analyse the construct validity, considering a four-factor model. Ninety-eight percent of the items revealed factor loadings higher than 0.3 and statistically significant saturations. Construct validity revealed acceptable fit of the four factors of the MM-NICS.[31]

2.4. Data analysis

Frequencies, percentages, and measurements of central tendency and dispersion were obtained. The levels of satisfaction were calculated overall and by factors. The descriptive values of each one of the items that make up the scale were also calculated, dividing them into factors and classifying them into two categories as follows: dissatisfied and satisfied.

A bivariate analysis was performed to analyse the relation between the level of patient satisfaction and the sociodemographic and clinical variables. The mean score of the total scale and the four factors were compared according to age groups, sex, employment status, level of education, marital status, length of the stay in the ICU and previous admissions, perception of the state of health, and perception of the degree of recovery. The nonparametric Wilcoxon–Mann–Whitney test was used to compare two independent groups, and the nonparametric Kruskal–Wallis test was used to compare more than two independent groups. Finally, to compare the mean score of the NICSS with the perception of the degree of recovery and perception of the state of health, the Spearman correlation test was used.

Multivariate linear regression analysis was carried out to examine satisfaction with nursing care. For regression analyses, variable selection was performed with a forward stepwise procedure with an entry criterion of $p < 0.05$ and a removal criterion of $p > 0.10$.

All tests of significance were two tailed, and statistical significance was defined as $p < 0.05$ unless otherwise stated.

R-3.1.2 on Windows was the statistical package used to manage and statistically analyse the data.

3. Results

Of 245 invited ICU patients, 200 agreed to participate in this study giving a response rate of 81.63%; the 18.37% (n = 45) refused to participate. Participants in the study (n = 200) had an average age of 65.9 (standard deviation 13.4 years), and 66% of them were men (n = 132). Table 1 shows selected sociodemographic and clinical characteristics of participants.

Table 1
Sample demographic and clinical characteristics (n = 200).

	n (%)
Age	
Mean (SD)	65.9 (13.4)
Sex	
Male	132 (66.0%)
Female	68 (34.0%)
Employment situation	
Unemployed	8 (4.0%)
Working	38 (19.0%)
Early/retired	8 (4.0%)
Disability/pensioner	112 (56.0%)
Others	27 (13.5%)
Missing	7 (3.5%)
Level of education	
Without studies	36 (18.0%)
Primary education	55 (27.5%)
Secondary education	71 (35.5%)
University	37 (18.5%)
Missing	1 (0.5%)
Civil status	
Married	111 (56%)
Live as a couple	8 (4%)
Single	29 (15%)
Separated	6 (3%)
Divorced	12 (6%)
Widowed	32 (16%)
Days of stay in ICU	
Median (IQR)	4.0 (2.0–6.0)
Previous ICU admissions	
No	119 (59.5%)
Yes	81 (40.5%)
State of health (1–10)	
Mean (SD)	6.3 (1.8)
Degree of recovery (1–10)	
Mean (SD)	6.6 (1.9)
Diagnosis on admission	
Heart disease	167 (83.5%)
Respiratory, infectious, digestive, polytraumatic, and neurological	33 (16.5%)

SD, standard deviation; IQR, interquartile range; ICU, intensive care unit.

3.1. Levels of satisfaction

The mean score of the NICSS items was 5.73 (SD 0.41). Table 2 shows the results of the levels of satisfaction obtained in each one of the NICSS items, grouped into two categories as follows: dissatisfied and satisfied.

Values with the highest score included in F1: holistic care are pain management, the punctual administration of medication, continuous nursing care delivered with kindness and patience, attending to patients' needs, and keeping them washed and clean. In relation to F2: communication modes, a high score was given when nurses had introduced themselves, they had answered the patient's questions, and had looked at the patient whenever they entered the room. As regards F3: professional behaviours, patients valued team work, nurses' technical skill, speed they had attended to patient's needs, received human treatment, and enthusiasm shown by nurses towards their work. Finally, F4: consequences, which deals with patients' feelings and experiences when receiving nursing care, they emphasised that the nurses had seemed very efficient, they had felt physically safe, were grateful, and eager to continue living.

After analysing the lowest scoring items from F1: holistic care, it was evident that the empathy shown by the nurse who provided the care and the nurses' respect for sleep and rest were important aspects. The results of F2: communication modes revealed that patients appreciated the explanation of care before it was provided and the encouragement to communicate with the nurse. Aspects valued in F3: professional behaviours were clinical judgement given to face situations related to evolution of their illnesses and treatment and anticipation of the nurse to provide care before it was requested. Finally, aspects valued in F4: consequences were having patients' opinion into account and optimistic feeling.

A very high level of satisfaction is observed when analysing the scores of every factor, obtaining F3: professional behaviours a slightly lower score.

3.2. Relation between the level of satisfaction and the sociodemographic and clinical variables

Linear multiple regression analysis revealed that the variable independently associated with NICSS was state of health (Table 3).

Table 2
Satisfaction with each one of the NICSS items according to answer categories.

Content of summary items	Dissatisfied, n (%)	Satisfied, n (%)	Mean (SD)
F1. Holistic care			5.74 (0.44)
Item 6. Ensured that I was not in pain	2 (1.0%)	198 (99.0%)	5.89 (0.50)
Item 7. Gave my medication on time	1 (0.5%)	199 (99.5%)	5.89 (0.42)
Item 8. Listened	6 (3.0%)	194 (97.0%)	5.76 (0.72)
Item 12. Gave continued care	0 (0.0%)	200 (100.0%)	5.88 (0.37)
Item 14. They paid attention to me	1 (0.5%)	199 (99.5%)	5.73 (0.64)
Item 15. Made sure that I was kept clean	3 (1.5%)	197 (98.5%)	5.83 (0.65)
Item 16. Respected my sleep and rest	11 (5.5%)	189 (94.5%)	5.56 (1.02)
Item 17. They treated my injuries well	7 (3.5%)	193 (96.5%)	5.75 (0.87)
Item 18. Moved me when I need it	4 (2.0%)	196 (88.0%)	5.8 (0.67)
Item 19. Concerned for my comfort	2 (1.0%)	198 (99.0%)	5.82 (0.64)
Item 21. Maintained a relationship of trust	6 (3.0%)	194 (97.0%)	5.6 (0.93)
Item 22. They were attentive to my needs	0 (0.0%)	200 (100.0%)	5.86 (0.42)
Item 23. Showed patience while giving care	1 (0.5%)	199 (99.5%)	5.84 (0.49)
Item 24. Knew how to put themselves in my position	7 (3.5%)	193 (96.5%)	5.54 (0.96)
Item 27. Provided emotional support	6 (3.0%)	194 (97.0%)	5.65 (0.87)
Item 29. Sensitive to my suffering	7 (3.5%)	193 (96.5%)	5.57 (0.95)
Item 32. They looked after me kindly	1 (0.5%)	199 (99.5%)	5.84 (0.54)
Item 34. I was seen to with tact/sensitivity	4 (2.0%)	196 (88.0%)	5.81 (0.58)
Item 36. Maintained close contact	7 (3.5%)	193 (96.5%)	5.66 (0.90)
Item 37. They took care of me in a personal way	7 (3.5%)	193 (96.5%)	5.66 (0.79)
F2. Communication modes			5.78(0.40)
Item 1. They introduced themselves	2 (1.0%)	198 (99.0%)	5.86 (0.50)
Item 20. They explained what they were going to do	10 (5.0%)	190 (95.0%)	5.65 (0.97)
Item 25. They answered questions	0 (0.0%)	200 (100.0%	5.85 (0.42)
Item 26. They worked with a smile	1 (0.5%)	199 (99.5%)	5.79 (0.55)
Item 30. Looked at me when they walked in	1 (0.5%)	199 (99.5%)	5.83 (0.54)
Item 33. Helped me communicate	4 (2.0%)	196 (88.0%)	5.72 (0.73)
F3. Professional behaviours			5.71(0.40)
Item 2. They assisted me quickly	3 (1.5%)	197 (98.5%)	5.81 (0.71)
Item 3. Demonstrated technical ability	0 (0.0%)	200 (100.0%)	5.88 (0.42)
Item 4. They knew what they had to do	0 (0.0%)	200 (100.0%)	5.79 (0.60)
Item 5. They had a professional attitude	3 (1.5%)	197 (98.5%)	5.79 (0.60)
Item 9. They knew what to do	3 (1.5%)	197 (98.5%)	5.76 (0.62)
Item 10. They worked in a team	2 (1.0%)	198 (99.0%)	5.89 (0.43)
Item 11. They solved problems	30 (15.0%)	170 (85.0%)	5.18 (1.56)
Item 13. They showed that they enjoyed	1 (0.5%)	199 (99.5%)	5.81 (0.52)
Item 28. They anticipated the care needed	15 (7.5%)	185 (92.5%)	5.38 (1.20)
Item 31. The treatment was personal	1 (0.5%)	199 (99.5%)	5.85 (0.53)
Item 35. The care helped me to recover	3 (1.5%)	197 (98.5%)	5.70 (0.71)
F4. Consequences			5.72 (0.40)
Item 38. Optimistic	9 (4.5%)	191 (95.5%)	5.58 (0.98)
Item 39. Calm	6 (3.0%)	194 (97.0%)	5.67(0.86)
Item 40. They valued my opinion	14 (7.0%)	186 (93.0%)	5.47 (1.11)
Item 41. Good	4 (2.0%)	196 (88.0%)	5.74 (0.77)
Item 42. In the nurse's hands	6 (3.0%)	194 (97.0%)	5.73 (0.80)
Item 43. Cared for by efficient nurses	0 (0.0%)	200 (100.0%)	5.86 (0.41)
Item 44. Like a number, an object	16 (8.0%)	184 (96.5%)	5.62 (1.06)
Item 45. Grateful	3 (1.5%)	197 (98.5%)	5.85 (0.63)
Item 46. Physically secure	3 (1.5%)	197 (98.5%)	5.80 (0.61)
Item 47. With a desire to keep living	3 (1.5%)	197 (98.5%)	5.84 (0.61)
Item 48. Alone	11 (6.0%)	188 (94.0%)	5.67 (0.94)
Item 49. Unattended	7 (3.5%)	193 (96.5.0%)	5.76 (0.85)
Total NICSS			5.73 (0.41)

SD, standard deviation; NICSS, Nursing Intensive-Care Satisfaction Scale.

Tables 4 and 5 show the relation between sociodemographic and clinical variables and the level of satisfaction. The state of health variable was statistically significant for F1: holistic care, F2: communication modes, F4: consequences, and the total NICSS, and the degree of recovery variable was statistically significant for F1: holistic care and F4: consequences. Although these variables were statistically significant, the degree of correlation was minimal in all of them, except in F1: holistic care and F4: consequences with the state of health that was low. In this regard, patients who perceived a better state of health gave higher scores for the total NICSS and F2: communication modes. Similarly, patients who perceived a higher degree of recovery and better state of health gave higher scores for the levels of satisfaction in F1: holistic care and F4: consequences.

4. Discussion

The fact that, once included in the study, none of the participants refused to participate because of the difficulty or time needed to fill in the questionnaire suggests that the NICSS is a self-reported questionnaire and easy to fill in. Furthermore, it is the only instrument that incorporates the perspective of the CCP both in design and validation phases.[31,32]

4.1. Level of satisfaction

The results of this study reveal that CCPs have very high levels of satisfaction regarding the nursing care they received during their stay in the ICU for the overall instrument and the four subscales,

Table 3
Factor associated with NICSS.

Model		Unstandardised coefficients		Standardised coefficients	t	Sig[a].
		B	Std. Error	Beta		
1	(Constant)	266.653	5110		52.184	.000
	State of health	2266	.776	.203	2919	.004

NICSS, Nursing Intensive-Care Satisfaction Scale.
Dependent variable: NICSS.
[a] Result derived from a linear multiple regression analysis.

according to the MM-NICS. These results match other studies consulted, despite using different instruments to assess satisfaction.[9,10] These results could be explained by the social desirability bias, where people participating in the study give socially acceptable answers, whether it is the result of a continued use of the different services or tendency to agree and answer positively.[10,41] Several authors have suggested that the fear of reprisal from negative answers could be the cause of the tendency to give more favourable scores.[12,42–46] However, one of the strengths of this study is that the NICSS relies on the patient's perspective, and the patients were involved in their development, offering a broad holistic perspective of the satisfaction concept.

The satisfaction-related items with the best score coincide with those expressed by Bautista[47] in which the patients stressed the fact that their medication is administered on time; the nurse is knowledgeable and responds to their needs; they provide comfort by cheering up the patients and making them feel good; care helps and consoles, inasmuch as someone is concerned about the patients, they are confident and offer care, comfort, hope, and help. Included in the behaviour when caring for a person, patients also perceive humane treatment as the most important aspect. This humane–technical combination reflected in the results coincides with the contribution of some authors,[15,16,48] in which patients considered that not only technology and the nurses' experience but also humane was important, which included offering patients sympathy, courage, and comfort; reducing their fear; and creating a feeling of security.

There are many authors who state that better technical care can play an important role in increasing the level of patient satisfaction.[13,40,50–54] In addition, pain management,[55–57] nursing care delivered with kindness,[58] and aspects of interpersonal care positively affect patient satisfaction.[10,13,40,49,51,59]

The provision of quality nursing care is accompanied by a high level of satisfaction, which reduces the average length of stay in hospitals and a consequent reduction of costs.[59] Owing to the fact that patients recognise nursing care by translating it into satisfaction and its consequences in health results, it would be advisable to conduct new studies that highlight the costs and benefits of providing care of this nature.[60] The NICSS allowed to identify aspects that affect the satisfaction of the CCP that may be used to improve the care process.

Because averages of all obtained scores were higher than 5, satisfaction variable was not classified as satisfied or dissatisfied. In consequence, it has been used as a quantitative variable to show the results of the level of satisfaction in this study.

4.2. Sociodemographic and clinical variables

There is still great variability as regards the results in the relation of the level of satisfaction and the sociodemographic and clinical variables, including age, sex, days of stay in hospital, level of education, employment status, and perception of the state of health.[40] These weaknesses could be due to the lack of agreement in the theoretical framework of patient satisfaction.[61] Therefore, it is not so much the characteristics of the samples used but how satisfaction has been conceptualised for the construction of the instruments and the nonincorporation of the patient's perspective both in the design and in the validation of the same. It seems necessary to continue working to reach consensus on the theoretical framework of patient satisfaction.

In this study, the relation of the variables analysed as regards sex, age, marital status, level of education, employment status, previous admissions, and the number of days in the ICU did not reveal statistically significant differences, as in the review conducted by Batbaatar et al.[9] Moreover, the results coincide with those of other studies, which also failed to reveal statistically significant differences between the overall level of satisfaction and age,[33,36,62,63] sex,[33,36,63] marital status,[33] level of education,[6,27,33,36,62,63] employment situation,[34,64] days of stay in ICU, and previous ICU admissions.[33,63]

However, contradictory results appear in literature that show that older patients[1,30,34,35,38–40,44,64] and men report higher levels of satisfaction.[1,39] Other studies reveal that women[34,35] and people with a lower academic level show higher levels of satisfaction.[30,35,38,39,44,57,58,65] Moreover, the shorter the stay in hospital, the higher the level of satisfaction will be.[37,39]

In this study, the men with the longest average stay rate the level of satisfaction slightly higher. However, younger men, married or living with a partner, and who had previously been admitted to an ICU are more critical and report lower levels of satisfaction. The reason for these differences when they are compared with other studies may be because each study uses a different instrument to assess satisfaction. Moreover, men with no higher education who stayed in the ICU for longer gave a higher score. These results could be because these patients received complex nursing care for a longer period than other patients. They were, thus, able to give a more realistic rating as they could compare it with care they had received in other services.

Similarly, patients who perceived a greater state of health gave better satisfaction level scores, with these results coinciding with those of different authors who reported that the perceptions of the state of health with the level of satisfaction revealed statistically significant differences: the better the state of health perceived, the higher the level of satisfaction.[33,39,54,65] Even though the results of this study do not show a statistically significant difference in relation to the perception of the state of health, the results revealed by Abdel et al.[33] show that, if the level of satisfaction is higher, the perceived degree of recovery will be greater.

4.3. Limitations

The representativeness of the sample studied might not be complete because we were unable to conduct random sampling of the population under study. In addition, there may be survivor bias due to the CCP who died during their stay in the ICU and who, for obvious reasons, could not be surveyed. Moreover, it is possible that

Table 4
Relation between the overall level of satisfaction and sociodemographic and clinical variables.

NICSS		n	Mean	SD	p-value
Sex	Male	132	5.74	.4328	0.281
	Female	68	5.71	.3732	
Age	<45 years	17	5.62	.4645	0.512
	45–65 years	61	5.76	.3576	
	≥65 years	122	5.73	.4315	
Civil status	Married/live as a couple	119	5.77	.3542	0.239
	Other situations	81	5.67	.4874	
Level of education	Without studies	36	5.86	.2031	0.124
	Primary education	55	5.65	.5512	
	Secondary education	71	5.76	.3426	
	University	37	5.67	.4287	
Employment situation	Unemployed	8	5.61	.5302	0.809
	Working	38	5.79	.3301	
	Early/retired	8	5.80	2748	
	Disability/pensioner	112	5.73	.3839	
	Others	27	5.71	.5946	
Previous ICU admissions	Yes	81	5.70	.4561	0.185
	No	119	5.75	.3807	
Days of stay in ICU	≤48h	56	5.65	.5430	0.387
	48h–1 week	99	5.75	.3604	
	≥1 week	45	5.78	.3168	

NICSS, Nursing Intensive-Care Satisfaction Scale; SD, standard deviation; ICU, intensive care unit.

Table 5
Correlation between the degree of recovery and state of health and the level of satisfaction.

NICSS/recovery and health	N	Mean	SD	Spearman	p-value
F1. Holistic care					
Degree of recovery	200	6.33	1.81	0.150	**0.034***
State of health	200	6.58	1.92	0.213	**0.002***
F2. Communication modes					
Degree of recovery	200	6.33	1.81	0.107	0.131
State of health	200	6.58	1.92	0.190	**0.007***
F3. Professional behaviours					
Degree of recovery	200	6.33	1.81	0.112	0.152
State of health	200	6.58	1.92	0.099	0.162
F4. Consequences					
Degree of recovery	200	6.33	1.81	0.142	**0.045***
State of health	200	6.58	1.92	0.203	**0.004***
Total NICSS					
Degree of recovery	200	6.33	1.81	0.135	0.057
State of health	200	6.58	1.92	0.182	**0.010***

SD, standard deviation; NICSS, Nursing Intensive-Care Satisfaction Scale.
*$p < .05$.

dissatisfied patients and patients who could not read or write did not complete the questionnaires. These factors contribute to the uncertainty of the results and could impair the validity of the questionnaire.

The lack of variability in the answers, made evident by the large number of answers with high scores and the dimensions, does not guarantee the analysis of the wide ranges of the instrument's potential scores. On the one hand, high scores can reflect a patient's preference to demonstrate positive interaction with the people caring for them, “social desirability”, a limitation derived from the user's situation of dependence,[66] and, on the other hand, they can reflect beliefs of the nature of “they do the best they can”.[61] These high scores may also be conditioned by the fact that the study was carried out in three ICUs of one hospital only.

It is difficult to compare the results of this study with those of other studies that also assess patient satisfaction but do incorporate the patients' perspective in the design of the instrument as they do not focus exclusively on the nursing care and consider satisfaction with nursing care as part of a patient's general satisfaction, including the assessment of external services such as cleanliness and food.

5. Conclusion

The CCPs displayed very high levels of satisfaction regarding the nursing care received during their stay in the ICU for the total scale and for each one of the factors. The sociodemographic variables of the sample under study did not reveal statistically significant differences in the mean score of any of the subgroups. The clinical variables related to the perception of the state of health and the degree of recovery when completing the questionnaire revealed statistically significant differences for the total NICSS or for some of its factors. Patients who perceived a better state of health gave better scores for the levels of satisfaction. Similarly, patients who perceived a better state of health and degree of recovery gave higher scores for the level of satisfaction in F1: holistic care and in F4: consequences.

Ethical approval

The questionnaire maintained the anonymity and confidentiality of individuals and of the data collected. Regarding the ethics of the participation process, individuals voluntarily agreed to take part, after receiving a written description of all the information related to the study and its objectives and before signing the written and informed consent agreement. Each participant was assigned a code in numbers and letters to conceal their identity and had the complete freedom to leave the study at any time.

This study had the authorisation of the Hospital's Director of Nursing and the Director of the institution's Clinical Research Ethics Committee (CREC: 11/044/1209).

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CRediT authorship contribution statement

Marta Romero-García: Conceptualization, Investigation, Writing - original draft, Visualization, Project administration, Funding acquisition. **Pilar Delgado-Hito:** Conceptualization, Investigation, Writing - original draft, Visualization, Supervision, Funding acquisition. **Laura de la Cueva-Ariza:** Conceptualization, Investigation, Writing - review & editing, Funding acquisition. **Maria Antonia Martínez-Momblan:** Methodology, Writing - review & editing, Visualization. **Maria Teresa Lluch-Canut:** Methodology, Writing - original draft, Visualization, Supervision. **Joan Trujols-Albet:** Validation, Formal analysis, Visualization. **Maria-Eulàlia Juvé-Udina:** Methodology, Writing - review & editing. **Llúcia Benito:** Validation, Formal analysis, Visualization, Supervision.

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