South American Publishing

SAP Health and Policy. 2026;5:376
doi: 10.56294/shp2026376

ORIGINAL

Quality of care and satisfaction of users attended by interns of the Growth and Development Control area

Calidad de atención y satisfacción en usuarios atendidos por internos del área de Control de Crecimiento y Desarrollo

Allison Alvarez-Tello[1]
Lesly Abigail Cayo-Fernández[1]

[1] Universidad Nacional de San Martín, Facultad de Ciencias de la Salud. Tarapoto, Perú.

Submitted: 25-03-2026 | Revised: 27-05-2026 | Accepted: 29-06-2026 | Published: 30-06-2026

ABSTRACT

Introduction: The quality of healthcare is a key factor in ensuring user satisfaction, especially in services targeting early childhood, such as the Growth and Development Monitoring area. However, few studies evaluate the care provided by nursing interns in this context. Methods: A basic study was conducted with a quantitative approach, a non-experimental design, and a descriptive-correlational level. The population consisted of 850 mothers of children under five years of age cared for by interns in the CRED area. Simple random probability sampling was applied, obtaining a sample of 265 participants. Two validated questionnaires were used: one based on the Donabedian model to measure the quality of care and another adapted from SERVQUAL to assess satisfaction. Data were analyzed in SPSS v. 26 using descriptive and inferential statistics. Results: 100% of the users perceived a high level of quality in the human and environmental dimensions, while 89.8% did so in the technical dimension. Regarding satisfaction, 100% reported a high level of reliability and responsiveness, and 99.6% reported a high level of empathy. A positive and significant correlation was identified between the quality of care and satisfaction ($r = 0.211$; $p = 0.001$). Conclusions: It was concluded that the quality of care provided by nursing interns was positively related to user satisfaction, demonstrating good training performance in real-life healthcare settings.

Keywords: reliability; empathy; responsiveness; service evaluation; patient experience; humanized care.

RESUMEN

Introducción: La calidad de atención en salud es un factor clave para garantizar la satisfacción de los usuarios, especialmente en servicios dirigidos a la primera infancia como el área de Control de Crecimiento y Desarrollo. No obstante, son escasos los estudios que evalúan la atención brindada por internos de enfermería en este contexto. Métodos: Se desarrolló un estudio de tipo básico, con enfoque cuantitativo, diseño no experimental y nivel descriptivo-correlacional. La población estuvo conformada por 850 madres de niños menores de cinco años atendidos por internos en el área CRED. Se aplicó un muestreo probabilístico aleatorio simple, obteniéndose una muestra de 265 participantes. Se utilizaron dos cuestionarios validados, uno basado en el modelo de Donabedian para medir la calidad de atención y otro adaptado del SERVQUAL para evaluar la satisfacción. Los datos fueron analizados en SPSS v.26 mediante estadística descriptiva e inferencial. Resultados: El 100% de las usuarias percibió un nivel alto de calidad en las dimensiones humana y de entorno, mientras que el 89,8% lo hizo en la dimensión técnica. Respecto a la satisfacción, el 100% reportó un nivel alto en fiabilidad y capacidad de respuesta, y el 99,6% en empatía. Se identificó una correlación positiva y significativa entre la calidad de atención y la satisfacción ($r = 0,211$; $p = 0,001$). Conclusiones: Se concluyó que la calidad de atención brindada por los internos de enfermería se relacionó positivamente con la satisfacción de las usuarias, evidenciando un buen desempeño formativo en entornos reales de atención en salud.

Palabras clave: fiabilidad; empatía; capacidad de respuesta; evaluación de servicios; experiencia del paciente; atención humanizada.

© 2026; The Authors. This Open access article is distributed under CC BY 4.0 licence.

INTRODUCTION

Care in the health sector is a relevant indicator to determine whether the environment, communication, behaviour, and/or attitude of staff are adequate to provide services that meet patients' expectations.(1,2,3)Thus, the World Health Organisation (4) states that in countries that are committed to providing comprehensive and integrated health services, it is imperative that quality of care ensures efficiency, safety, and people-centred care to increase the likelihood of desired outcomes.

However, multiple investigations report cases where nurses provide inadequate care, leading to dissatisfaction among patients in different levels and areas of health care, such as the study by Lotfi et al.(5)in Iran, where 80 % of 295 patients did not know their nurse and only 60 % knew their doctor, reflecting weakness in care and poor communication and interaction; a fact that was also found in the study by Karaca A. et al.(1)in Turkey, reporting that patients were dissatisfied with the information provided by nurses during their hospitalisation.

On the other hand, in the 'Dr. Antonio María Pineda's Hospital in Barquisimeto, Venezuela, Gutiérrez et al.(6)reported that 31,25 % of 32 patients stated that nursing care was inadequate, 53 % expressed dissatisfaction with care, and 68,75 % disagreed with the nursing staff and supplies provided in the health service. Collantes et al.(7)reported that users were moderately satisfied with the care provided by nurses in the human (93,7 %), timely (91,3 %), and safe (63,7 %) dimensions, emphasising that 58,7 % stated that the care was regular.

This panorama is not alien to the CRED area, which, according to the Ministry of Health, seeks to monitor the growth and development of children periodically and systematically in order to detect risks, disorders or diseases that facilitate their diagnosis and early intervention;(8)research such as that of Sanchez (9) in Trujillo, found regular quality nursing care, since 33,09 % of 136 mothers indicated that the staff sometimes did not indicate their name and did not provide privacy of care, generating low satisfaction in 22,06 %.

Other studies at the national level also reflect this problem, for example, Chávez et al.(10)in Huancayo, when surveying 50 mothers of children attended in the CRED clinic of a health centre, found that 48 % had a fair perception of the human dimension, as did 58 % of the environment dimension; Llanos (11) in the General Hospital of Jaén, found that of 218 mothers, 56,4 % had high, 19,3 % medium and 24,3 % low levels of satisfaction with the care provided by the nurses in the CRED area.

Although several cases of poor quality of care and satisfaction in the CRED area by nursing professionals have been reported;(12,13,14)however, there are no known studies that investigate the perception of these variables with respect to nursing interns who carry out professional practices in this area, and there is a gap of misinformation at regional and national level, which could show the level of professionalism in the care offered by interns during this professional stage, and determine whether the education received ensures the aspect of human and interpersonal relationships to ensure patient satisfaction.(15)

Thus, in this research it was identified that during the community internship of nursing students at the UNSM, the quality of care they provide in the CRED area is not evaluated, so it is not known whether their knowledge, skills, communication, interaction or other aspects applied in care are adequate and efficient to resolve the different situations they face during their internship and to verify whether they satisfy, as future health professionals, the needs of mothers who come with their children.

Therefore, we sought to determine the relationship between quality of care and satisfaction perceived by users attended by interns in the CRED area of the Morales Health Centre; this being a relevant research work to fill the gaps of misinformation that exist on these variables in a context of students doing their community internship.

METHODS

The study adopted a basic research design, aimed at generating new knowledge on quality of care and user satisfaction in a specific health care context. A quantitative approach was used, as statistical analysis of the data collected was used to answer the objectives and hypotheses. In terms of level, descriptive-correlational research was developed, given that it sought to describe the characteristics of the variables under study and to analyse the degree of relationship between them. A non-experimental cross-sectional design was also used, since none of the variables were manipulated and the information was collected at a single point in time(16).

The main variables analysed were quality of care and user-perceived satisfaction. The quality of care was structured in three dimensions: human, technical and environment, with a total of 19 items distributed in these dimensions. User satisfaction was assessed through three dimensions: reliability, responsiveness and empathy, covering 12 items. Overall, the study analysed a total of 31 indicators, distributed in six dimensions related to both variables.

The unit of analysis consisted of mothers of children under five years of age who were attended to in the area of Growth and Development Control (CRED) of the Morales Health Centre, who were specifically attended to by nursing interns from the National University of San Martín. The total population was 850 mothers, while the sample was 265 participants, selected by simple random probability sampling, considering a confidence level of 95 % and a margin of error of 5 %.

The survey technique was used for data collection, and two structured questionnaires were applied as instruments. The first assessed the variable 'quality of care' and was constructed based on Donabedian's theoretical model.(17)The second instrument, corresponding to the variable 'satisfaction', was adapted from the SERVQUAL model, following the guidelines of the Peruvian Ministry of Health (RM N°527-2011).(9)Both questionnaires used a five-point Likert-type ordinal scale, with the options of Never(1), Almost never(2), Sometimes(3), Almost always(4), and Always(5). A pilot test was also conducted with 20 participants to assess the reliability of the satisfaction instrument, obtaining a Cronbach's Alpha coefficient of 0,81, indicating good internal consistency.

The data collected were initially tabulated in Excel 2016 spreadsheets and subsequently imported into SPSS version 26 software for analysis. Descriptive statistical techniques were applied to characterise socio-demographic variables and determine levels of quality of care and satisfaction. In addition, inferential statistics were used using Spearman's correlation test, given the ordinal nature of the data, in order to assess the relationship between the main variables and between their respective dimensions. The results are presented in frequency tables and correlational analysis, with a level of statistical significance set at $p < 0,05$.

The ethical principles established for research involving human subjects were respected during the study's development. Formal authorisation was obtained from the Morales Health Centre, and informed consent was requested from each of the participants, guaranteeing their voluntary participation and the right to withdraw at any time. Likewise, confidentiality and anonymity of the information provided were ensured, and the data were used only for academic purposes. The principles of respect for individuals, beneficence, justice, and scientific integrity were applied, and the researchers undertook to present the results truthfully, without manipulation, and to ensure that the findings contribute to the improvement of the quality of care provided in the CRED area.

RESULTS AND DISCUSSION

Socio-demographic characteristics

According to table 1, 78,5 % of the children who attended the CRED area of the Morales Health Centre during the study were aged 0 to 12 months, 17,0 % were aged 13 to 24 months, 2,3 % were aged 25 to 36 months, 1,9 % were aged 37 to 48 months and 0,4 % were aged 49 to 60 months.

As for the age of the mother seen in the CRED area, the mean (average) age was 26 years, with the minimum age being 15 years and the maximum 44 years, with a standard deviation of 5 years (table 2).

Table 1. Age of children seen in the CRED area

Age range	Frequency	Percentage
	208	78,5 %
0 to 12 months	45	17,0 %
13 to 24 months	6	2,3 %
25 to 36 months	5	1,9 %
37 to 48 months	1	0,4 %
Total	265	100 %

Table 2. Age of mothers seen in the CRED area

Mother's age	N	Minimum	Maximum	Media	Deviation
Age	265	15	44	26	5

On the other hand, according to table 3, 14,3 % of the mothers seen in the CRED area of the Morales Health Centre reported being single, 74,7 % reported being cohabiting and 19,9 % married. There was no evidence of widowed mothers.

Table 3. Marital status of mothers seen in the CRED area

Marital status	Frequency	Percentage
	38	14,3 %
Single	198	74,7 %
Cohabiting	29	10,9 %
Total	265	100 %

As shown in table 4, 77,0 % of the mothers assisted in the CRED area have the occupation of housewife, 16,6 % reported working and 6,4 % reported being students.

Likewise, when asked about educational level, 15,1 % of the mothers attended in the CRED area indicated that they had only primary education, 55,5 % had secondary education, 26,4 % had higher education and 3,0 % had no education at all (table 5).

Table 4. Occupation of the mothers attended to in the CRED area

Occupation	Frequency	Percentage
	204	77,0 %
Housewife	17	6,4 %
Student	44	16,6 %
Worker	265	100 %

Table 5. Level of education of the mothers attended to in the CRED

Grade of education	Frequency	Percentage
	40	15,1 %
Primary	147	55,5 %
Secondary	70	26,4 %
Higher	8	3,0 %
None	265	100 %

These findings are similar to the study by García (18) who evaluated the quality of care provided by nurses at the CRED clinic of the Max Arias Schreiber Health Centre (Lima) in a sample of 70 users, 59 % were between 20 and 30 years of age, 70 % were cohabiting and 34 % had higher education. In the present study, the average age was 25 years, with 198 mothers living with a partner, but the occupation was centred on housewife, with 204 mothers attending the CRED area of the Morales Health Centre.

Quality of care

Table 6 shows that the quality of care perceived by the users attended to by the CRED interns at the Morales Health Centre mainly was 'high' in the human and environmental dimensions, with 100 % of the users rating it as such in both dimensions, where qualities such as respect, patience and kindness stand out.

However, in the technique dimension, although the majority of users (89,8 %) rated it as 'high', 9,8 % perceived it as 'medium', suggesting that some mothers perceived deficiencies in the information or guidance provided by the nursing interns, a lack of confidence in the execution of procedures or a lack of care in their performance. This discrepancy suggests variability in the perception of the quality of the physical environment among the mothers who attended, which could point to specific areas for improvement in the health care environment of the health centre.

Table 6. Level of quality of care according to its human, technical and environmental dimensions

Level	Quality of care		Dimensions					
			Humana		Technique		Environment	
	FI	%	FI	%	FI	%	FI	%
Low	0	0 %	0	0 %	1	0,4 %	0	0 %
Medium	0	0 %	0	0 %	26	9,8 %	0	0 %
High	265	100 %	265	100 %	238	89,8 %	265	100 %
Total	265	100 %	265	100 %	265	100 %	265	100 %

Gutiérrez (6) reported opposite results, noting that 31,25 % of 32 patients in a Venezuelan hospital mentioned that the nursing staff's care was inadequate, and 68,75 % disagreed with the staff and supplies provided in the health service. This contrasts with the nursing interns in the CRED area of the Morales Health Centre, where 100 % of the users who attended said the quality of care was good.

The study also found differences with the research of Chávez (10) in Huancayo, who surveyed 50 mothers of children attended at the CRED clinic of the Justicia, Paz y Vida health centre, and found that 48 % had a fair perception of the human dimension, as did 58 % of the environment dimension; the opposite was true of the nursing interns in the CRED area of the Morales Health Centre, where 100 % of users attended reported a high level of satisfaction with the human and environment dimensions, respectively.

Satisfaction

According to table 7, the majority of users attended by nursing interns in the CRED area of the Morales Health Centre expressed a 'high' level of satisfaction in all the dimensions evaluated. Specifically, 100 % of users rated satisfaction as 'high' in the reliability and responsiveness dimensions, while 99,6 % rated it as 'high' in the empathy dimension. These findings suggest that, in general, users are satisfied with the care received by the interns in terms of reliability, responsiveness, and empathy; as they show respect for the order of arrival of children, good treatment of mothers, respect, charisma, among other characteristics of reasonable care.

Table 7. Level of satisfaction according to dimensions of reliability, responsiveness and empathy

Level	Level	Satisfaction		Dimension					
				Reliability		Responsiveness		Empathy	
		Fi	%	Fi	%	Fi	%	Fi	%
Low	Low	0	0 %	0	0 %	0	0,0 %	0	0 %
Medium	Medium	0	0 %	0	0 %	1	0,4 %	0	0 %
High	High	265	100 %	265	100 %	264	99,6 %	265	100 %
Total	Total	265	100 %	265	100 %	265	100 %	265	100 %

On the other hand, the absence of 'low' and 'medium' level ratings indicates a consistency in the positive perception of satisfaction with care in these dimensions. However, it is essential to note that there was only one 'medium' level rating (0,4 %) on the empathy dimension, acknowledging that a minority of users may have perceived certain deficiencies in this specific aspect of care, for example, the explanation provided by the UNSM nurse intern was not entirely clear or had hesitations in their responses.

In India, Kannan (19) reported an overall level of satisfaction of 78,88 % in the care provided by health professionals, which is lower than the high satisfaction perceived by the users of the CRED area of the Morales Health Centre, according to the care received by nursing interns.

Similarly, in the research of Sanchez (9) who reported that 75 % of mothers attended to in the CRED area of an I-3 facility in Trujillo were high, but 44 % and 46 % expressed dissatisfaction with the responsiveness and tangible aspects, which bears some resemblance to the findings of the present study, as 0,4 % of users reported a 'medium' level of responsiveness of the UNSM nursing interns.

Relationship between quality of care and satisfaction

According to table 8, the null hypothesis (H0) is rejected in response to the general objective of the research and the hypothesis proposed. The alternative hypothesis (H1) is accepted, that is, there is a significant relationship between quality of care and satisfaction perceived by users attended by interns of the CRED area, Centro Salud Morales, because the Spearman correlation coefficient was 0,211, which indicates a low, but significant, positive correlation. The bilateral significance value (p = 0,001) is less than 0,05, confirming the correlation is statistically significant.

The results suggest that as the quality of care provided by interns in the CRED area improves, user satisfaction also increases, although the relationship is not very strong. However, the statistical significance validates that the quality of care directly and positively impacts perceived satisfaction, reinforcing the importance of maintaining and improving quality standards in child health care in this context.

This finding is similar to Sanchez's (9) research, which found a very good correlation of 0,810, according to Spearman's coefficient, between quality of nursing care and satisfaction in mothers of children cared for in the CRED area. Likewise, in Tarapoto, Copia(20)found that quality of service has a direct and significant relationship with user satisfaction at Hospital II-2, according to Pearson's coefficient, which yielded a value of 0,906.

Table 8. Correlation test between quality of care and satisfaction

Quality of care		Satisfaction
	Spearman correlation	0,211**
	Sig. (bilateral)	0,001
	N	265
Note: **. Correlation is significant at the 0,01 level (bilateral).		

Although the literature indicates a positive correlation between quality of care and satisfaction with the care provided by the nursing staff, there is variation in the levels according to the different dimensions. For example, according to Tello (17) of the 40 users attended by nurses, 46,1 % perceived medium satisfaction and 23,1 % low satisfaction, mainly in the technical dimension. However, the results of this study indicate that, in almost all dimensions, mothers attended by nursing interns in the CRED area experienced a high quality of care. This suggests high satisfaction, which leads to the inference that UNSM nursing interns contribute to health services by providing adequate care, which, in turn, will positively impact their job placement and professional training, highlighting both their knowledge and the soft skills acquired.

CONCLUSIONS

There is a positive and statistically significant relationship between the quality of care provided by the nursing interns and the satisfaction perceived by the mothers of children under five years of age attended to in the Growth and Development Control area of the Morales Health Centre. All users rated the human and environmental dimensions highly, while the technical dimension showed areas for improvement. Likewise, satisfaction was high in practically all the dimensions evaluated, which showed adequate performance by the interns in their care role.

The findings support the systematic incorporation of performance evaluations in internship training scenarios, allowing for feedback on the teaching-learning process in technical and communication skills. Furthermore, the study suggests that nursing interns can contribute effectively to child health care, provided they are adequately supervised and accompanied. Institutionally, the results can be used by academic coordinators and health managers to strengthen clinical training programmes, implement simulations, and prioritise interventions in specific dimensions, such as technical, thus promoting safer, more comprehensive, and user-centred care.

REFERENCES

1. Karaca A, Durna Z. Patient satisfaction with the quality of nursing care. Nurs Open . 4 de abril de 2019;6(2):535-45. https://onlinelibrary.wiley.com/doi/10.1002/nop2.237
2. López-Fernández C. Inteligencia emocional y relaciones interpersonales en los estudiantes de enfermería. Educ Médica. enero de 2015;16(1):83-92. https://linkinghub.elsevier.com/retrieve/pii/S1575181315000030
3. Ye BD, Travis S. Improving the quality of care for inflammatory bowel disease. Intest Res. enero de 2019;17(1):45-53.
4. Organizacion Mundial de la Salud. Calidad de la atención . 2020. https://www.who.int/es/health-topics/quality-of-care#tab=tab_1
5. Lotfi M, Zamanzadeh V, Valizadeh L, Khajehgoodari M. Assessment of nurse–patient communication and patient satisfaction from nursing care. Nurs Open . 26 de julio de 2019;6(3):1189-96. https://onlinelibrary.wiley.com/doi/10.1002/nop2.316
6. Gutiérrez Berríos ZD, Lorenzo Gómez ML, Berríos Rivas AT. Calidad de Atención de Enfermería según el Paciente Hospitalizado. Rev Científica
7. 'Conecta Lib . 2019;3(1):1-11. https://revistaitsl.itslibertad.edu.ec/index.php/ITSL/article/view/70
8. Collantes Delgado D, Clavo Pérez V. Satisfacción del paciente hospitalizado frente al cuidado enfermero. FACSALUD-UNEMI. 16 de diciembre de 2020;4(7):11-22. http://ojs.unemi.edu.ec/index.php/facsalud-unemi/article/view/1217
9. Gonzales-Achuy E, Huamán-Espino L, Pablo Aparco J, Pillaca J, Gutiérrez C. Factores asociados al cumplimiento del control de crecimiento y desarrollo del niño menor de un año en establecimientos de salud de Amazonas, Loreto y Pasco. Rev Peru Med Exp Salud Publica . 30 de mayo de 2016;33(2):224-32. https://rpmesp.ins.gob.pe/index.php/rpmesp/article/view/2187
10. Sanchez Vidal NS. Calidad de atención de enfermería y satisfacción en madres de niños del servicio de crecimiento y desarrollo, Establecimiento I-3, Trujillo-2022 . Universidad César Vallejo; 2022. https://repositorio.ucv.edu.pe/handle/20.500.12692/101865
11. Chávez Soto IL, Guzmán Gala D. Percepción de las madres acerca de la calidad de atención de enfermería en el consultorio de CRED del Centro de Salud Justicia Paz y Vida Huancayo 2019. Universidad Privada de Huancayo Franklin Roosevelt; 2019. https://repositorio.uroosevelt.edu.pe/handle/20.500.14140/188
12. Llanos Tantalean MM. Nivel de satisfacción de madres sobre la calidad de atención de enfermería - programa de crecimiento y desarrollo. Hospital General Jaén, 2018 . Universidad Católica Santo Toribio de Mogrovejo; 2021. https://tesis.usat.edu.pe/handle/20.500.12423/5162
13. Noreña Peña AL, Cibanal Juan L, Alcaraz Moreno N. La interacción comunicativa en el cuidado de la salud. Rev Española Comun en Salud . 2016;1(2):113-29. https://e-revistas.uc3m.es/index.php/RECS/article/view/3412
14. Zhong Y, Moon HC. What Drives Customer Satisfaction, Loyalty, and Happiness in Fast-Food Restaurants in China? Perceived Price, Service Quality, Food Quality, Physical Environment Quality, and the Moderating Role of Gender. Foods. 2020;9(4):460. https://www.mdpi.com/2304-8158/9/4/460
15. Piyaman P, Hallinger P, Viseshsiri P. Addressing the achievement gap: Exploring principal leadership and teacher professional learning in urban and rural primary schools in Thailand. J Educ Adm. 2017;55(6):717-34.
16. Alharbi HF, Alzahrani NS, Almarwani AM, Asiri SA, Alhowaymel FM. Patients' satisfaction with nursing care quality and associated factors: A cross-section study. Nurs Open. diciembre de 2022;
17. Hernández Sampieri R, Fernández Collado C, Baptista Lucio P. Metodología de la investigación (6ta ed.). McGraw-Hill Education; 2014.
18. Tello Marreros WR. Nivel de satisfacción del usuario sobre la calidad de atención brindada por enfermeros en un centro de salud, Lima 2021 . Universidad Nacional Mayor de San Marcos; 2021. http://cybertesis.unmsm.edu.pe/handle/20.500.12672/16944
19. Garcia Poma E. Satisfacción de los padres respecto a la calidad de atención de enfermería en el consultorio de CRED en un establecimiento de salud. Lima, 2019. Universidad Nacional Mayor de San Marcos; 2021.
20. Kannan S, Avudaiappan S, Annamalai M. Patients' satisfaction with nursing care quality in medical wards at selected hospital in Chennai, South India. Iran J Nurs Midwifery Res. 2020;25(6):471.
21. Copia Chacón MG. Calidad de servicio y satisfacción del usuario en el Hospital II, Tarapoto, 2020. Universidad Cesar Vallejo; 2020.

FUNDING

No financing

CONFLICT OF INTEREST

None

AUTHORSHIP CONTRIBUTIONS

Conceptualization: Allison Alvarez-Tello, Lesly Abigail Cayo-Fernández.
Data Curation: Allison Alvarez-Tello.
Formal Analysis: Lesly Abigail Cayo-Fernández.
Research: Allison Alvarez-Tello, Lesly Abigail Cayo-Fernández.
Methodology: Allison Alvarez-Tello, Lesly Abigail Cayo-Fernández.
Project Administration: Allison Alvarez-Tello.
Resources: Allison Alvarez-Tello, Lesly Abigail Cayo-Fernández.
Validation: Lesly Abigail Cayo-Fernández.
Visualization: Lesly Abigail Cayo-Fernández.
Writing - Original Draft: Allison Alvarez-Tello, Lesly Abigail Cayo-Fernández.
Writing - Proofreading and Editing: Allison Álvarez-Tello, Lesly Abigail Cayo-Fernández.