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Original Study

Quality of Care In Nursing Homes In Brazil

Wagner Ivan Fonseca de Oliveira MPH [a,*], Pedro Jesus Saturno Hernández DrPH [b], Kelienny de Meneses Sousa MPH [c], Gérson da Silva BSc [d], Zenewton André da Silva Gama PhD [e]

[a] Instituto Federal de Educação Ciência e Tecnologia do Rio Grande do Norte, São Paulo do Potengi, Brazil
[b] Instituto Nacional de Salud Pública, Cuernavaca, México Kelienny Sousa
[c] Programa de Pós-graduação em Saúde Coletiva, Universidade Federal do Rio Grande do Norte, Natal, Brazil Gérson da Silva
[d] Curso de Gestão em Sistemas e Serviços de Saúde, Universidade Federal do Rio Grande do Norte, Natal, Brazil Zenewton Gama
[e] Departamento de Saúde Coletiva, Universidade Federal do Rio Grande do Norte, Natal, Brazil

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A B S T R A C T

Background: There is an increased demand for nursing homes (NHs) in middle-income countries such as Brazil. To monitor the quality of NHs, there is a need for reliable instruments to assess the extent to which the care provided meets the expectations and rights of residents and their families.
Purpose: To evaluate the reliability, applicability, and measurement results of an instrument for assessing the quality of NH care assessment.
Methods: We conducted a cross-sectional study in 31 NHs, applying the Observable Indicators of Nursing Home Care Quality Instrument (OINHQ) adapted to the Brazilian context. The instrument includes 30 infrastructure and process indicators measured by direct observation grouped into seven domains: Communication; Care Delivery; Grooming; Odors; Environment—Basic; Environment—Access; and Environment—Homelike. To assess feasibility and reliability, 3 pairs of raters with different profiles (health professionals, health inspectors, and potential residents) were independently involved in data collection. We calculated Cronbach α for internal consistency of the instrument, Overall Agreement Index (OAI), and Prevalence-Adjusted Bias-Adjusted Kappa (PABAκ) for interrater reliability and analyzed the baseline NH quality through individual indicators, dimensions, and facilities.
Results: The OINHQ was in general reliable, with good internal consistency (Cronbach $\alpha = 0.93$) and interrater agreement (mean OAI = 75%; PABAκ = 0.49). NH quality is not homogeneous (overall mean = 2.9, ranging by facility between 1.9 and 3.7, on a scale of 1-5). Process-related indicators (mean = 2.7) are generally worse than structure-related indicators (mean = 3.5). The best domains were associated with Odors (mean = 4.1) and Grooming (mean = 3.9), whereas the priority domains for receiving improvement interventions were Care Delivery (mean = 2.0) and Environment-Homelike (mean = 2.5).
Conclusions: Baseline evaluation of NH quality shows remarkable variability among facilities and ample room for improvement.

Developing countries with a rapidly aging population show an urgent need for social assistance alternatives such as nursing homes (NHs) for the elderly. However, despite the growing importance of NHs, the development of indicators to monitor their quality is still an unfulfilled priority.[1]

The importance of assessing and enhancing the quality of NHs has been recognized and encouraged in many countries since the seminal document published by the United States Institute of Medicine 30 years ago.[2] Low-quality services in these institutions are a matter of frequent complaints and an ongoing concern for residents, their families, health care professionals, and health inspectors.[3,4]

The application of the Observable Indicators of Nursing Home Care Quality Instrument (OINHQ), developed in the United States[5,6] and also applied in other countries,[7,8] was designed to guide health inspectors, health care professionals, and potential residents in appraising specific observable indicators of quality care during an approximate 30-minute inspection of a nursing home.

The authors declare no conflicts of interest.

* Address correspondence to Wagner Ivan Fonseca de Oliveira, MPH, Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Norte, Campus São Paulo do Potengi—IFRN, RN-120, Km 2, Novo Juremal, São Paulo do Potengi/RN 59460-000, Brazil.
E-mail address: wagner.fonseca@ifrn.edu.br (W.I. Fonseca de Oliveira).

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The OINHQ was translated and adapted for Brazil[9] and is now available for reliability and pilot application to analyze the quality of Brazilian NHs. The OINHQ measures quality of care based mainly on the patient-centered domain, which has been emphasized as a priority objective in many countries as well as by international organizations such as the Institute of Medicine (IOM),[10] the World Health Organization (WHO),[11] and the Organization for Economic Cooperation and Development (OECD).[12] In Brazil, this objective is conceptually equivalent to the domains "Respect for the Right of Individuals" and "Acceptability," included in PROADESS (Program for the Assessment of Health System Performance), the Brazilian model that assesses the performance of health services.[13] The salient element of patient-centered care is respect for patient needs, desires, preferences, and values.[14] Recent research has revealed the benefits associated with this domain in relation to enhanced quality and safety, lower costs, and increased satisfaction in both the health team and residents.[14–16] With respect to caring for chronic conditions in the elderly, studies also indicate that providing patient-centered care improves disease follow-up, functional standards, quality of life, and mortality rates.[16–18]

In view of the need for monitoring the quality of NHs and the strategic importance of enhancing patient-centered care for the elderly residents, we conducted a study using the OINHQ instrument translated and validated for Brazil,[9] assessing its reliability and usefulness in measuring NH quality. Measurement results may be a first approach in analyzing the baseline situation of NHs in terms of the quality of the care provided.

Method

Design and Context

We conducted a cross-sectional observational study to analyze the reliability of the OINHQ instrument, and the baseline situation of NH quality. It was carried out between September and October 2014, in the state of Rio Grande do Norte (RN). The study is part of a wider project aimed at validating the OINHQ and promoting the assessment NH quality in Brazil. The project began with a cultural adaptation of the instrument, as described in an earlier study.[9]

Study Subjects

The study population consisted of all the NHs in Rio Grande do Norte state that had at least 5 elderly residents. According to the Department of Health Surveillance (SUVISA/RN), in July 2014 the state had 38 institutions, none of which were public, 11 (29%) were private for-profit ones and the remainder philanthropic. In relation to

Table 1
Internal Consistency of the OINHQ by Domains (Cronbach's Alpha) Stratified by Professional, Regulator, and Potential Resident, Rio Grande do Norte, Brazil, 2014

Domain/Indicator	Health Professionals			Regulators			Potential Residents		
	Item-Total Correlation	α if Item Exclusion	α	Item-Total Correlation	α if Item Exclusion	α	Item-Total Correlation	α if Item Exclusion	α
D1: Communication			0.96			0.93			0.95
I1	0.88	0.95		0.80	0.91		0.89	0.94	
I2	0.88	0.95		0.71	0.92		0.83	0.94	
I3	0.91	0.94		0.74	0.92		0.87	0.94	
I4	0.85	0.95		0.81	0.91		0.88	0.94	
I5	0.91	0.94		0.80	0.91		0.90	0.94	
I6	0.79	0.96		0.84	0.90		0.76	0.95	
D2: Care Delivery			0.56			0.49			0.67
I7	0.52	0.45		0.28	0.43		0.59	0.59	
I8	0.31	0.51		0.30	0.41		0.48	0.59	
I9	0.38	0.48		0.01	0.57*		0.35	0.64	
I10	−0.03	0.66*		−0.07	0.57*		0.10	0.73*	
I11	0.49	0.44		0.46	0.33		0.42	0.61	
I12	0.33	0.51		0.66	0.25		0.58	0.55	
D3: Grooming			0.91			0.97			0.93
I13	0.86	—		0.93	—		0.90	—	
I14	0.86	—		0.93	—		0.90	—	
D4: Odor			0.88			0.91			0.90
I15	0.79	—		0.84	—		0.81	—	
I16	0.79	—		0.84	—		0.81	—	
D5: Environment−Basic			0.87			0.90			0.88
I17	0.75	0.82		0.85	0.85		0.83	0.82	
I18	0.64	0.85		0.68	0.89		0.65	0.87	
I19	0.84	0.80		0.75	0.87		0.85	0.82	
I20	0.54	0.88*		0.72	0.88		0.51	0.90*	
I21	0.71	0.83		0.80	0.87		0.75	0.85	
D6: Environment−Access			0.75			0.77			0.81
I22	0.57	0.68		0.59	0.71		0.48	0.83*	
I23	0.78	0.53		0.53	0.75		0.79	0.67	
I24	0.53	0.70		0.60	0.71		0.73	0.72	
I25	0.35	0.78*		0.60	0.70		0.55	0.79	
D7: Environment−Homelike			0.81			0.75			0.72
I26	0.62	0.77		0.59	0.68		0.34	0.73*	
I27	0.66	0.76		0.67	0.64		0.59	0.62	
I28	0.72	0.74		0.48	0.72		0.67	0.59	
I29	0.64	0.77		0.70	0.65		0.60	0.64	
I30	0.42	0.83*		0.179	0.80*		0.243	0.75*	
Total			0.94			0.93			0.93

α, Cronbach alpha; D, domain; I, indicator.
*Values at which internal consistency would increase by removing the item.

location, 17 (44%) are in the state capital, Natal. With respect to size, 13 (34.2%) are small, housing up to 15 residents, 22 (57.9%) are medium-sized, with 16 to 49 residents, and 3 (7.9%) are large, with 50 or more individuals.

Study Variables

The main variable and object of the study is the quality of care at NHs measured using the OINHQ instrument during a visit by different pairs of raters to measure the agreement between pairs of different social entities (health inspectors, health care professionals, and potential residents). The independent variables are NH size (small, medium, and large), location (capital or other city), and the nature of the institution (private or philanthropic).

Assessment Instrument

We applied the OINHQ instrument previously adapted to Brazil.[9] The Brazilian version of the OINHQ contains 30 items grouped into 7 domains: (1) Communication (6 items); (2) Care Delivery (6 items); (3) Grooming (2 items); (4) Odors (2 items); (5) Environment—Basic (5 items); (6) Environment—Access (4 items); and (7) Environment—Homelike (5 items). Five domains are related to the process of care (1 to 3, 6, and 7) and 2 to infrastructure (4 and 5). Each item is assessed by observation with scores of 1 to 5 points in increasing order of quality.

Data Collection

In an attempt to evaluate the applicability of the instrument to different social entities,[5,7] each institution was evaluated by 3 pairs of external interested evaluators who had no relationship with the institutions: 2 health inspectors, 2 health care professionals, and 2 potential residents. We chose 1 pair from each rater profile to analyze reliability, based on interrater agreement, from 3 potentially different points of view. Data were collected during a single 30- to 40-minute visit. The day and time of the visit were agreed with the institution at least 1 week in advance. Each rater examined different areas of the nursing home, primarily the common areas and corridors. One member from the facility gave them a more detailed presentation on the areas and the care provided by the institution, and the OINHQ was then independently applied by the pairs of raters.

Data Analysis

The reliability (internal consistency) of the instrument was assessed by calculating Cronbach's alpha for the entire instrument and for each domain, as done in other studies.[5,7,8] Interrater agreement was assessed overall and by item applying the Overall Agreement Index and the Prevalence-Adjusted Bias-Adjusted Kappa (PABAκ)[19] (acceptable when >0.21), on average and for the 3 pairs of raters.

To analyze performance, we analyzed single items, dimensions, and individual facilities and average the ratings of the 3 pairs of raters. In terms of the 5-point rating scale, we considered average scores ≥4 acceptable quality, between 3 and 3.9 poor quality, and <3 very poor quality. We calculate point and 95% confidence interval estimates of NH quality for each facility.

On the other hand, to analyze differences according to type of institution, performances were dichotomized using the 70th percentile as cutting point, with good quality being assumed when performance is ≥70th percentile. Next, Fisher exact test was used to assess the association between quality and type of institution (private or philanthropic) and NH location (capital or other city), and Pearson chi-squared test to analyze the relationship with institution size (small, medium, and large). For all tests, a 5% significance level was adopted.

The study was approved by the Research Ethics Committee of Federal University of Rio Grande do Norte, under protocol number 611.458.

Results

Of the 38 NHs for the elderly in Rio Grande do Norte (RN) state, 37 were eligible (1 was excluded for having fewer than 5 residents), but 6 of these institutions (4 private and 2 philanthropic) did not agree to participate in the study. All those who refused to take part were located in the state capital. Thus, 31 of the 37 eligible institutions (83.8%) enrolled in the study, 24 philanthropic (77.4%) ones and 28 small or medium sized (90%). An average of 27 elderly residents (standard deviation: 16.9) resided in the institutions.

Instrument Reliability

The internal consistency of the instrument, assessed by Cronbach's alpha, was generally high, both overall and by dimensions (Table 1).

Table 2
Analysis of OAI and PABAκ for Indicator in the 31 NHs, Assessed for OINHQ, Stratified by Health Professionals, Potential Residents, and Regulators, Rio Grande do Norte, Brazil, 2014

Domain/Indicator	Potential Resident		Regulator		Health Professional		Mean	
	OAI, %	PABAκ	OAI, %	PABAκ	OAI, %	PABAκ	OAI, %	PABAκ
D1: Communication	75	0.50	56	0.12	69	0.38	67	0.33
I1	84	0.68	52	0.04	74	0.48	70	0.40
I2	71	0.42	52	0.04	64	0.28	62	0.25
I3	64	0.28	58	0.16	77	0.54	66	0.33
I4	77	0.54	61	0.22	74	0.48	71	0.41
I5	77	0.54	71	0.42	68	0.36	72	0.44
I6	77	0.54	45	−0.10	55	0.10	59	0.18
D2: Care Delivery	86	0.72	81	0.62	83	0.66	83	0.67
I7	97	0.94	87	0.74	100	1.00	95	0.89
I8	93	0.86	81	0.62	64	0.28	79	0.59
I9	90	0.80	97	0.94	90	0.80	92	0.85
I10	77	0.54	68	0.36	71	0.42	72	0.44
I11	90	0.80	90	0.80	87	0.74	89	0.78
I12	71	0.42	64	0.28	84	0.68	73	0.46
D3: Grooming	79	0.58	58	0.16	64	0.28	67	0.34
I13	74	0.48	64	0.28	64	0.28	67	0.35
I14	84	0.68	52	0.04	64	0.28	67	0.33
D4: Odors	87	0.74	72	0.44	74	0.48	78	0.55
I15	87	0.74	68	0.36	77	0.54	77	0.55
I16	87	0.74	77	0.54	71	0.42	78	0.57
D5: Environment—Basic	70	0.40	72	0.44	84	0.68	75	0.51
I17	74	0.48	71	0.42	81	0.62	75	0.51
I18	71	0.42	81	0.62	90	0.80	81	0.61
I19	84	0.68	71	0.42	84	0.68	80	0.59
I20	61	0.22	68	0.36	87	0.74	72	0.44
I21	61	0.22	71	0.42	77	0.54	70	0.39
D6: Environment—Access	69	0.38	71	0.42	74	0.48	71	0.43
I22	58	0.16	77	0.54	77	0.54	71	0.41
I23	74	0.48	77	0.54	71	0.42	74	0.48
I24	81	0.62	84	0.68	81	0.62	82	0.64
I25	61	0.22	45	−0.10	68	0.36	58	0.16
D7: Environment—Homelike	76	0.52	78	0.56	78	0.56	77	0.55
I26	81	0.62	77	0.54	87	0.74	82	0.63
I27	74	0.48	77	0.54	71	0.42	74	0.48
I28	74	0.48	61	0.22	71	0.42	69	0.37
I29	71	0.42	84	0.68	74	0.48	76	0.53
I30	81	0.62	90	0.80	87	0.74	86	0.72
Total	77	0.54	71	0.42	76	0.52	75	0.49

D, domain; I, indicator; OAI, Overall Agreement Index.

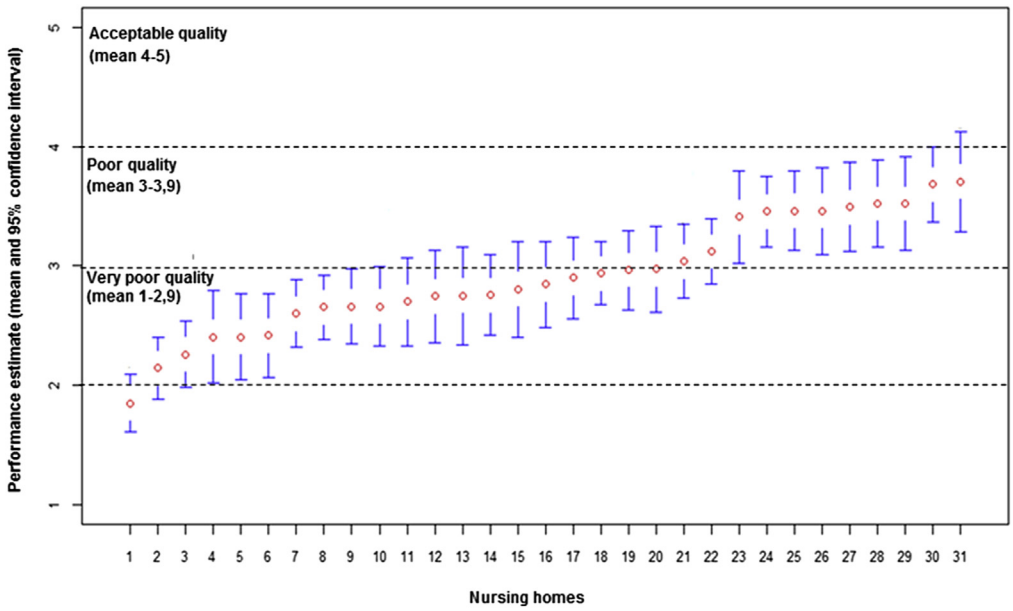

Fig. 1. Situational analysis of the 31 NH assessed using the Observable Indicators of Nursing Home Care Quality Instrument (OINHQ) based on the mean of three pairs of raters on a 5-point scale, Rio Grande do Norte state, Brazil, 2014.

The overall alpha was 0.94 when the instrument was applied by health care professionals and 0.93 when applied by health inspectors or potential residents. Results by domains are equally high, ranging from 0.72 to 0.96, with the only exception being Care Delivery, which was lower than 0.60 for health care professionals (0.56) and health inspectors (0.49). Item 10 in this domain shows a low item-total correlation, and, if excluded, the alpha value would have a satisfactory value (0.65).

Interrater agreement (Table 2) measured by the Overall Agreement Index was generally satisfactory, with an average of 75%, ranging from 67% (Communication and Grooming domains) to 83% (Care Delivery domain). Furthermore, the mean PABAκ was 0.49, ranging from 0.42 (health inspectors) to 0.54 (potential residents) by pair of raters, showing a good overall reliability even when different raters with different profiles apply the instrument. With regard to individual items, however, agreement and consistency, in general, was higher by pairs of health care professionals and potential resident consumers than by pair of health inspectors. The PABAκ was acceptable (>0.21) for 29/30 items in potential residents and health care professionals, and for 22/30 items in health inspectors. The average PABAκ was below 0.2 in 2 items, one of them in relation to the presence of unpleasant odors and the other in relation to the residents' access to external areas of the institution. In both cases, the lowest PABAκ is for health inspectors and the highest (and most acceptable) for potential residents. It is only for the latter item that we found a significant difference ($P = .007$) in the assessment by different pairs of raters.

Nursing Home Quality

Significant variation was detected between the NHs assessed, and none of them had a satisfactory (mean score ≥4) quality level. Nine showed a poor performance level (mean score 3–3.9) and 22 were of very poor overall quality (mean score <3) (Figure 1).

The domains with the best results were Odors and Grooming, whereas the worst, and thus the priority domains for improvement, were Care Delivery and Environment–Homelike. Worse results were observed for domains associated with process, with a mean = 2.7 per item, than for those related to infrastructure (mean = 3.5). Detailed results of average ratings by item and domain are presented in Table 3 and Figure 2. Only 1 domain (Odors) and its 2 items were rated on average ≥ 4. All the remaining items were unsatisfactory (mean 3–3.9) or critically unsatisfactory (mean < 3), with the worst results for those included in Care Delivery, namely, items 7 ("Were there nurses in the common areas of the institution?"), 8 ("Did the nurses seem to know the residents in order to manage their care?"), and 9 ("Did the work team help the residents with their meals?") with means of 1.2, 1.7, and 1.6, respectively. Item 30 ("Were there visitors at the institution?") also obtained an unsatisfactory score (mean = 1.7).

In relation to factors potentially associated with NH quality, only location showed a significant relationship ($P = .003$). Eighteen (90%) of those outside the capital were rated as being of poor quality, whereas 4 (36.4%) of those based in the capital had equally poor results. Size (small, medium, large) and type of ownership (private or philanthropic) were not significantly associated with quality.

Discussion

This study, which is consistent with the global agenda to improve the quality of care in nursing homes, in accordance with the International Association of Gerontology and Geriatrics,[1] contributes to monitoring the quality of care in Brazilian NHs by confirming the reliability and applicability of a potentially useful instrument focused on the important domain of patient-centered care. This is the first study of its kind in Brazil and provides a critical view for the national and international community of the infrastructure and process indicators in this country as well as the improvement opportunities that health managers, health inspectors (regulators), institutional administrators, professionals, and the consumers of these services should consider. It may also serve as an example for similar initiatives in other countries where the quality of NHs has never been assessed.

The reliability of the adapted instrument was good, demonstrating high internal consistency ($\alpha = 0.93$) and satisfactory agreement (Overall Agreement Index = 75% and PABAκ = 0.49), similarly to the original instrument ($\alpha = 0.80$, $\kappa = 0.76$).[5,6] Versions in Iceland,[7] Canada,[7] and South Korea[8] obtained comparable results. However, item 10

Table 3
Performance Assessment of 31 NHs, Considering the Mean of Domains and Indicators Obtained by 3 Pairs of Raters Using the OINHQ, Rio Grande do Norte, Brazil, 2014

Domains (Mean [SD] on the 1- to 5-Point Scale)	Indicators Contained in the OINHQ Associated With the Respective Domains	Mean per Items	SD
Communication (3.1 [0.8])	1. Were conversations between the residents and the work team friendly?	3.0	1.0
	2. Did the work team address the residents by name?	3.2	1.0
	3. Did the residents and work team know each other and seem comfortable with one another? (eg, smiling, visual contact, touching, etc)	3.2	1.0
	4. Did the residents and work team interact with one another in a positive way? (eg, conversations, humor, touching, visual contact, etc)	2.9	1.0
	5. Did the work team seem friendly? (compassionate, warm, polite)	3.0	1.0
	6. Did the work team treat the residents with dignity and respect?	3.5	0.8
Care Delivery (2.0 [0.6])	7. Were there nurses in the common areas of the institution? (Observe the ID tags or ask the work team.)	1.2	0.7
	8. Did the nurses seem to know the residents in order to manage their care? (It may be necessary to ask the work team.)	1.7	1.2
	9. Did the work team help the residents with their meals?	1.6	1.1
	10. Were the residents encouraged to move around the institution independently, with or without an assistive device, such as a cane, walker, or wheel chair?	3.0	1.0
	11. Did the work team help some of the residents walk or move around the institution?	2.0	1.0
	12. Did the work team communicate with confused residents in a positive way? (eg, speaking, touching, sitting with them)	2.5	1.0
Grooming (3.9 [0.9])	13. Were the residents properly dressed and clean?	3.9	0.9
	14. Did the residents seem to be well cared for? (clean shaven, hair combed, nails clean and trimmed)	3.8	0.9
Odor (4.1 [0.9])	15. Were there noticeable urine and feces odors in the institution?	4.0	1.0
	16. Were there other noticeable unpleasant odors in the institution?	4.2	0.9
Environment–Basic (3.4 [0.7])	17. Were the corridors and common areas unobstructed?	3.4	0.9
	18. Were the residents' rooms, corridors, and common areas clean?	3.6	0.9
	19. Were the building, grounds, and furniture of the institution in good condition?	3.5	1.0
	20. Were the corridors well lit?	3.4	0.9
	21. Were the residents' rooms well lit?	3.2	0.9
Environment–Access (2.7 [0.8])	22. Do confused residents have a safe place to walk around inside the institution? (It may be necessary to ask the work team.)	2.9	1.1
	23. Do the confused residents have a safe place to walk around outside the institution? (It may be necessary to ask the work team.)	2.5	1.1
	24. Do the confused residents have access to the external area of the institution? (It may be necessary to ask the work team.)	2.2	0.9
	25. Do the other residents have access to the external area of the institution? (It may be necessary to ask the work team.)	3.2	1.1
Environment–Homelike (2.5 [0.8])	26. Were the residents' rooms personalized with furniture, photographs, and other personal objects?	2.4	1.3
	27. Were there pets (dogs, cats, birds, etc) and/or natural plants in the institution?	2.8	1.2
	28. Were the animals and/or natural plants well cared for?	3.0	1.3
	29. Was there a family atmosphere in the institution?	2.7	1.0
	30. Were there visitors at the institution? (family, volunteers, community members, etc)	1.7	1.0
Total		2.9	0.5

SD, standard deviation.

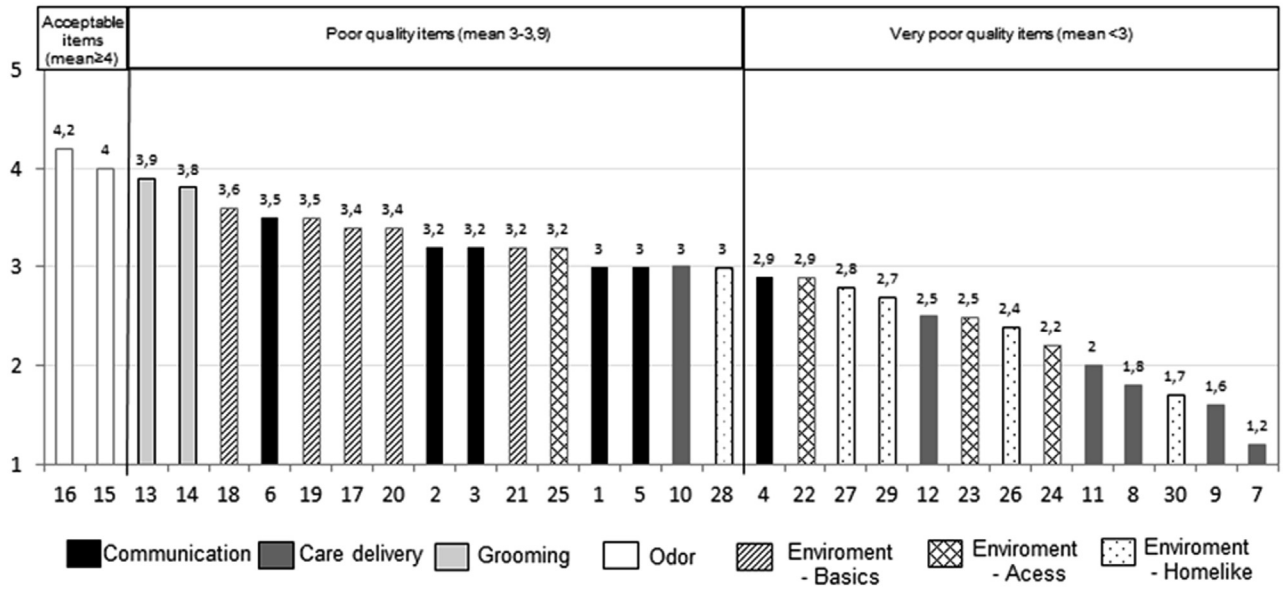

Fig. 2. Mean of the indicators obtained by the three pairs of raters applying the Observable Indicators of Nursing Home Care Quality Instrument (OINHQ), on a 5-point scale.

("Did the residents move around the institution independently, with or without an assistive device, such as a cane, walker or wheelchair?") had a very low item-total correlation. This item should probably be eliminated or changed for a clearer and more process-oriented item, such as "Were the residents encouraged to move around the institution independently, with or without an assistive device, such as a cane, walker or wheelchair?" which emphasizes professional-patient interaction.

This study confirmed the usefulness of the OINHQ to health inspectors, health care professionals, and potential residents interested in nursing home services. In the context of a growing focus on reducing costs while adding value to services, it is essential that care quality can be assessed (by external and internal raters) rapidly and effectively. The use of the OINHQ, which enables assessment in 30 to 40 minutes per institution, may be a reasonable option. However, it should be pointed out that according to our results, the OINHQ seems to be more reliably applied by health care professionals or potential residents than by health inspectors. In the Brazilian setting, the current philosophy of the National Health Surveillance Agency (ANVISA) is to control risks through critical analysis of care processes and continuous monitoring, and health inspectors can use this instrument in sanitary inspections of these services.[20] If the OINHQ is finally adopted for routine use, inspectors may need ad hoc training to increase reliability.

In the absence of official routine assessment, the use of the OINHQ by potential NH customers can assist the elderly or family members in their decision making in choosing an NH. Without this type of guided assessment of NH quality, price and setting become the only parameters for judging the functioning of institutions.[4] As regards these potential users of the OINHQ, it is important to underscore the relevance of the instrument, because it emphasizes patient-centered care, which considers the primary interests and concerns of users, rather than and above other aspects.[4,21]

Apart from Odors, the highest scores in the assessed NHs were for the domains Environment—Basic, related to infrastructure, and Grooming. These results may reflect a concern about the more visible aspects of apparent quality, perhaps to the detriment of other patient interests, given that the worst results were for the domain Care Delivery, which includes the provision of humanized care for the elderly. These results may also reflect the absence of a national policy to provide health care professionals for this type of service, particularly nurses. The apparent priority that NH administrators give to the aspects related to infrastructure and the appearance of good quality may also be a result of the inspection model adopted by Brazilian Sanitary Surveillance, via RDC no. 283/2005,[22] which has historically emphasized infrastructure indicators in its regulations, rather than care processes. However, even infrastructure indicators obtained unsatisfactory results (mean = 3.75), which may be due to the lack of government oversight for this type of service provided to the elderly.

Insufficient care was also observed at mealtimes, possibly because of the low number of caregivers. There was also a lack of perception on the part of the work team and NH management of the importance of allowing the elderly to make decisions that influence their life, primarily functionally dependent residents. This gap is associated with the low self-esteem and quality of life observed in NH residents.[23] Moreover, the lack of financial resources in NHs may contribute to the low quality of the Care Delivery domain. In philanthropic institutions, that is, most of the Brazilian NHs, where resources are scarcer, most of the expenses (52%) are related to work team salaries, making it difficult to allocate resources to maintain the operating conditions of the institution and improve the quality of services.[24]

It is important to highlight the low mean score in the Environment—Homelike domain, a finding contradictory to the current proposal of cultural changes that favor the deinstitutionalization of NHs and promote family and personalized environments. Other cultural factors, such as the marginalization suffered by the elderly in a society that does not value their contributions or their experience, may also influence this situation. Many facilities deny the residents' autonomy by instituting compulsory and repetitive daily activities, planned and established to meet the needs of the institution rather than those of the elderly and their families. Disregarding the fact that they may have different needs and expectations, it leads to low care quality in terms of the objective of focusing care on the patient.[25] It is important to emphasize that in addition to not creating a family environment, there is a certain family abandonment. This was noticeable from the absence of visitors at the institutions assessed, even though this may be a factor linked to the family, but also because the institution does not provide an appropriate environment and time for these visits.

There may be differences in NH quality associated with contextual factors. However, our study did not aim to conduct a detailed analysis of the relevance of contextual factors associated with NH performance. We considered only 3 factors (NH size, urban location, and type of ownership) and found significant differences between institutions in the capital and those in other cities, probably reflecting the social and economic variability of these contexts. The Human Development Index of the state capital is high (0.76), but the mean of the other cities is lower (0.66).[26] Factors associated with differences in culture, environment, and access to education and resources between the capital and the other cities may have contributed to greater risk of poor-quality services in the latter. However, it is important to emphasize that the 6 institutions in the capital that refused to take part in the study possibly would have had quality problems. The relatively small sample size may explain the lack of significant difference between private and philanthropic NHs, given the relatively small *P* value (.15) of the null hypothesis.

We may have other limitations in interpreting the results, such as the possible presence of a Hawthorne effect and overestimation of the level of quality, since the institutions were given a warning of at least 1 week prior to the visit. On the other hand, the OINHQ was assessed for internal consistency, reliability and applicability, but no exploratory factorial analysis was conducted to confirm construct validity, because of the statistical requirement of a minimum sample number of 100 units,[27] significantly more than the 31 institutions evaluated in the present investigation. In addition, the OINHQ focuses mainly on infrastructure and process data related to patient-centered care. Other health care quality domains (Effectiveness, Efficiency, Safety, Opportunity and Equity) may also be considered for a more complete assessment. However, research has shown a positive relation between patient-centered care and health outcomes.[18]

It can be concluded that the OINHQ is a reliable and useful instrument in the Brazilian context. Our study suggests that it can be used to monitor NH quality and identify improvement opportunities. Its applicability has been proven for different types of assessors, such as health inspectors, health care professionals and potential residents. All of them have consistently revealed important improvement opportunities in the assessed NHs. The road to improving care for the elderly, who are increasingly demanding this type of service, remains long. Urgent changes in social and health policies, as well as in the management of these institutions, are needed in order to transform NHs into facilities that meet the needs and expectations of the elderly population and their families.

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