Evaluation of Nursing Care Quality for Alzheimer's Patients During Hospitalization

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ABSTRACT: Alzheimer's disease constitutes one of the most challenging medical conditions of our time, requiring specialized care during hospitalizations. This study evaluated family members' perceptions of nursing care quality provided to hospitalized Alzheimer's patients. A cross-sectional descriptive quantitative design was used with 85 family members of Alzheimer's patients at a private hospital institution in San Juan, Puerto Rico, during June-December 2024. A validated 34-item questionnaire was applied evaluating four dimensions: physical care, emotional/psychological care, communication quality, and general satisfaction. Results revealed a regular perception of care quality (average 3.1/5.0) with significant variations between dimensions. Communication emerged as the main strength (3.5/5.0, 50.6% satisfaction), while emotional/psychological care represented the greatest deficiency (2.6/5.0, 55.3% dissatisfaction). Significant positive correlations were identified between all dimensions (p<0.01), with the strongest being between physical care and general satisfaction (r=0.724). The most influential sociodemographic factors were time elapsed since diagnosis (strong negative effect) and family member's educational level (positive effect). Spouses evaluated care significantly more positively than daughters and cousins. The findings offer evidence for designing strategies that improve emotional care and strengthen communication, contributing to knowledge about care quality in patients with dementia.

KEYWORDS: Alzheimer's, nursing care, quality of care, family perspective, hospitalization

INTRODUCTION

Nursing care for Alzheimer's patients during hospitalizations presents unique challenges, where patient vulnerability intensifies and care needs become more complex (Moyle, 2023). Nursing professionals face significant difficulties including effective communication, management of challenging behaviors, interdisciplinary care coordination, and the need to maintain a humanized approach in hospital environments frequently oriented toward tasks (Scerri et al., 2020).

Care complexity is aggravated by multiple institutional and professional factors, including lack of specialized training, limited resources, communication difficulties, absence of patient-centered approaches, and the presence of social stigma associated with dementia (Dookhy & Daly, 2021; Çevik et al., 2022). These factors contribute to a perception of care dehumanization (Boddington & Featherstone, 2018), particularly concerning considering that Alzheimer's patients represent one of the most vulnerable groups in the health system and experience hospitalizations 2-3 times more frequently than people of the same age without dementia (Alzheimer's Association, 2025; U.S. Department of Health and Human Services, 2021).

Despite institutional efforts to implement improvement strategies, including continuing education, interdisciplinary support, and self-care programs for staff, family complaints persist related to deficiencies in recognizing individual needs, delays in care provision, inadequate communication, and deficiencies in basic care such as feeding, hygiene, and medication (Røsvik & Rokstad, 2020). Studies demonstrate that 72% of nursing staff feel they lack specific skills to communicate effectively with people living with dementia and desire additional training (Data from Counting the Cost, cited in Turner et al., 2017).

The family perspective acquires relevance in care quality evaluation, as family members function as advocates for Alzheimer's patients, monitoring the quality of services received in hospital institutions (Digby et al., 2017; Tasseron-Dries et al., 2023). This perspective provides valuable information about care aspects that may not be evident from other perspectives, contributing to a more comprehensive understanding of care quality. Family members possess unique knowledge about their relatives and can play an important role in identifying and seeking solutions for unmet needs (Tasseron-Dries et al., 2023).

In this context, it is fundamental to evaluate nursing care quality from the family perspective, identifying both strengths and areas for improvement in different care dimensions. This evaluation not only contributes to scientific knowledge about care quality in vulnerable populations but also provides empirical evidence for developing specific and differentiated improvement

strategies that optimize nursing care directed toward Alzheimer's patients and their families (Alzheimer's Association, 2018; Livingston et al., 2024).

Study Purpose

The purpose of this study is to evaluate family members' perceptions of nursing care quality provided to Alzheimer's patients during hospitalization, identifying specific dimensions that require improvement and factors associated with greater satisfaction.

Study Objectives

1. Evaluate the perceived quality of nursing care according to specific dimensions: physical care, emotional/psychological care, communication quality, and general satisfaction.
2. Identify nursing care dimensions with the greatest deficiencies according to the perception of Alzheimer's patients' family members.
3. Examine existing correlations between different nursing care quality dimensions evaluated by Alzheimer's patients' family members.
4. Analyze the association between sociodemographic variables of family members with Alzheimer's patients on nursing care quality perception.

MATERIALS AND METHODS

Study Design

A cross-sectional descriptive quantitative design was used. This approach allowed describing and analyzing family members' perceptions of nursing care quality provided to Alzheimer's patients during hospitalization. The cross-sectional design was selected because it allows data collection at a specific and unique moment in time, which is appropriate for evaluating current family perceptions of received care.

Population and Sample

The target population consisted of family members of patients diagnosed with Alzheimer's who were hospitalized at a private hospital institution in the metropolitan area of San Juan, Puerto Rico, during the period from June to December 2024. The sample was comprised of 85 family members of hospitalized Alzheimer's patients. Non-probabilistic convenience sampling was used due to the specific characteristics of the population and limited availability of family members during the study period.

Inclusion and Exclusion Criteria

Inclusion criteria were direct caregiver family members of patients with confirmed medical diagnosis of Alzheimer's, patients hospitalized for a minimum of 48 hours, family members over 21 years of age, cognitive capacity to understand and respond to the questionnaire, and voluntary consent to participate. Exclusion criteria included: family members of patients without confirmed Alzheimer's diagnosis, health or nursing personnel from the institution, family members with cognitive deterioration that impedes questionnaire comprehension, patients with less than 24 hours of hospitalization, and family members who had not witnessed direct nursing care.

Study Variables

The dependent variable was nursing care quality, defined as the degree to which nursing services provided to patients respond to professional standards and satisfy patients' physical, emotional, and cognitive needs, promoting their well-being during hospitalization. The independent variable was hospitalization of Alzheimer's patients, defined as the period of interment of a patient with clinical diagnosis of Alzheimer's disease in a hospital unit.

Data Collection Instruments

A questionnaire titled "Questionnaire to measure the quality of nursing care received by Alzheimer's patients during hospitalization from their family members' perspective" was used. The instrument was structured based on an exhaustive review of specialized literature and recognized theoretical frameworks on quality in nursing care. The questionnaire consists of two main sections: sociodemographic data (10 items) and care quality evaluation (24 items), using a 5-point Likert scale: (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree.

Instrument Validation

The questionnaire underwent content validation through a panel of seven experts, comprised of two geriatric specialist nurses with more than 10 years of experience, one neurologist specializing in dementias, two doctors in nursing sciences with experience in instrument validation, one clinical psychologist specializing in older adults, and one specialist in quantitative research methodology. Validation results were: CVI per item: range from 0.86 to 1.00; total instrument CVI: 0.94; all items obtained consensus superior to 85%.

A pilot test was conducted with 15 family members of hospitalized Alzheimer's patients. Total instrument reliability reached α = 0.93, with values by dimensions: Physical care: α = 0.91; Emotional/psychological care: α = 0.88; Communication quality: α = 0.85; General satisfaction: α = 0.87.

Data Collection Procedures

The study was approved by the hospital institution, with authorization from nursing administration and hospital administration. The process began with identification of potential participants through daily census of hospitalized Alzheimer's patients. Initial contact was made with family members present during visits, who were explained the study purpose and asked for voluntary participation. After obtaining written informed consent, the questionnaire was applied in a private and comfortable environment.

Statistical Analysis

For descriptive analysis, categorical variables were evaluated through absolute and relative frequencies, percentages with 95% confidence intervals, and contingency tables. For continuous variables, measures of central tendency and dispersion were calculated. In inferential analysis, Pearson correlations were performed for variables with normal distribution and Spearman for non-parametric variables. Students' t-tests were applied for mean comparison in parametric variables, one-way ANOVA for multiple comparisons, and chi-square test for associations between categorical variables. All analyses were performed using SPSS version 28.0, with a significance level of α = 0.05.

RESULTS

Study results are presented in two sections. The first describes general characteristics of family members and Alzheimer's patients. The second exposes findings organized according to study objectives.

Sociodemographic Characteristics

The sample of Alzheimer's patients' family members was comprised of 55 women (64.7%) and 30 men (35.3%). Regarding educational level, 40.0% completed high school, 20.0% bachelor's degree, 20.0% master's degree, 10.6% middle school, 5.9% doctorate, and 3.5% elementary school. The mean years of education were 13.2 years (SD = 3.4). 55.3% were married, 24.7% single, 10.6% divorced, 5.9% widowed, and 3.5% cohabiting. In terms of family relationships: 35.3% daughters, 24.7% husbands, 20.0% wives, 9.4% cousins, 5.9% sons, and 4.7% partners (see Table 1).

Table 1: Sociodemographic Characteristics of Family Members

Variable	Category	n	%
Gender	Women	55	64.7
	Men	30	35.3
Educational Level	High School	34	40.0
	Bachelor's	17	20.0
	Master's	17	20.0
	Middle School	9	10.6
	Doctorate	5	5.9
	Elementary	3	3.5
Marital Status	Married	47	55.3
	Single	21	24.7
	Divorced	9	10.6
	Widowed	5	5.9
	Cohabiting	3	3.5
Family Relationship	Daughters	30	35.3
	Husbands	21	24.7
	Wives	17	20.0
	Cousins	8	9.4
	Sons	5	5.9
	Partners	4	4.7

Alzheimer's patients were distributed with 70.6% women and 29.4% men, with an average age of 76.8 years (SD = 7.3, range: 65-92 years). The average hospitalization time was 6.9 days (SD = 2.8), and time elapsed since Alzheimer's diagnosis averaged 12.4 years (SD = 4.2) (see Table 2).

Table 2: Characteristics of Alzheimer's Patients

Variable	Mean (SD)	Range	n	%
Gender - Women	-	-	60	70.6
Gender - Men	-	-	25	29.4
Age (years)	76.8 (7.3)	65-92	-	-
Hospitalization time (days)	6.9 (2.8)	-	-	-
Time since diagnosis (years)	12.4 (4.2)	-	-	-

Objective 1. Evaluate the quality level of nursing care:

Evaluation of the four nursing care quality dimensions revealed distinctive patterns. The analyzed dimensions were physical care, emotional/psychological care, communication in care, and general satisfaction. Global analysis demonstrated that neutrality predominated in evaluations with 38.8% of total responses, followed by agreement (24.1%) and disagreement (19.1%), suggesting a regular perception of care quality with broad opportunities for improvement (see Table 3).

Table 3. Evaluation of Nursing Care Quality by Dimensions

Dimension	Mean	SD	Agreement n (%)	Neutral n (%)	Disagreement n (%)
Physical Care	3.1	1.2	25 (29.4%)	27 (31.8%)	33 (38.8%)
Emotional/Psychological Care	2.6	1.1	13 (15.3%)	25 (29.4%)	47 (55.3%)
Communication Quality	3.5	0.9	43 (50.6%)	42 (49.4%)	0 (0.0%)
General Satisfaction	3.3	1.0	34 (40.0%)	38 (44.7%)	13 (15.3%)
GLOBAL TOTAL	3.1	-	115 (33.8%)	132 (38.8%)	93 (27.4%)

Note: n = 85 participants. Scale of 1-5 points.

Objective 2. Identify areas with greatest and least deficiencies

Communication quality emerged as the dimension with highest satisfaction and least deficiency, registering the highest mean of 3.5/5.0 and being the only dimension that exceeded 50% total agreement (50.6%), in addition to not registering any percentage of disagreement (0%), positioning itself as the main strength of nursing service.

In contrast, emotional/psychological care represented the dimension with lowest satisfaction, evidencing the lowest mean of 2.6/5.0, with only 15.3% total agreement and 55.3% total disagreement. This dimension constitutes the greatest source of dissatisfaction or deficiency, which requires priority intervention. It should be noted that the other dimensions, physical care and general satisfaction, showed mixed results. In this case, general satisfaction presented a mean of 3.3 with 40.0% agreement, 44.7% neutral responses, and 15.3% disagreement. While physical care obtained a mean of 3.1 with 29.4% agreement, 31.8% neutral, and 38.8% disagreement (see Table 4).

Table 4. Ranking of Deficiencies by Dimension

Position	Dimension	% Disagreement	n Participants	Mean	Classification
1	Emotional/Psychological Care	55.3%	47/85	2.6	Greatest deficiency
2	Physical Care	38.8%	33/85	3.1	High deficiency
3	General Satisfaction	15.3%	13/85	3.3	Moderate deficiency
4	Communication Quality	0.0%	0/85	3.5	Least deficiency

Objective 3. Examine correlations between dimensions

Positive and statistically significant correlations were identified between all nursing care quality dimensions ($p < 0.01$), with magnitudes that varied from moderate to strong (r = 0.491 - 0.724). The strongest correlation was observed between physical

care and general satisfaction (r = 0.724), followed by the relationship between physical care and emotional care (r = 0.687). The weakest, although significant, correlation was between emotional care and communication (r = 0.491) (see Table 5).

Table 5. Pearson Correlation Matrix between Quality Dimensions

Dimension	Physical Care	Emotional Care	Communication	General Satisfaction
Physical Care	1.000	-	-	-
Emotional Care	0.687**	1.000	-	-
Communication	0.543**	0.491**	1.000	-
General Satisfaction	0.724**	0.612**	0.598**	1.000

p < 0.01 (bilateral); n = 85 for all correlations

Objective 4. Analyze sociodemographic associations

Analysis revealed significant associations between multiple sociodemographic variables and care quality perception. Family member's years of education showed significant positive correlations with all dimensions, being strongest with general satisfaction (r = 0.345, p < 0.01). Time as caregiver presented significant negative correlations, especially with general satisfaction (r = -0.387, p < 0.01) and emotional care (r = -0.356, p < 0.01).

Years elapsed since patient diagnosis emerged as the most important predictor, showing significant negative correlations with emotional care (r = -0.398, p < 0.01), general satisfaction (r = -0.334, p < 0.01), and physical care (r = -0.267, p < 0.05).

Statistically significant differences were identified according to type of family relationship. Spouses evaluated care significantly more positively compared to daughters and cousins, particularly in emotional care and general satisfaction (p < 0.05). Family member gender showed no significant differences in any dimension (see Table 6).

Table 6. Comprehensive: Sociodemographic Associations and Quality Perception

VARIABLES	Physical Care	Emotional Care	Communication	General Satisfaction
CONTINUOUS VARIABLES (Pearson Correlations)				
Family member age	-0.234*	-0.187	-0.145	-0.298**
Years of education	0.312**	0.267*	0.234*	0.345**
Time as caregiver	-0.298**	-0.356**	-0.201	-0.387**
Days hospitalization	-0.145	-0.234*	-0.089	-0.198
Years since diagnosis	-0.267*	-0.398**	-0.156	-0.334**
Patient age	-0.123	-0.178	-0.098	-0.156
CATEGORICAL VARIABLES				
Family member gender	t=-1.34, p=0.184	t=-1.23, p=0.223	t=-1.67, p=0.098	t=-1.45, p=0.151
Family relationship	F=2.87, p=0.019*	F=4.23, p=0.002**	F=1.45, p=0.213	F=3.12, p=0.012*
• Husbands vs Daughters	+0.22, p=0.165	+0.67, p=0.003**	+0.18, p=0.298	+0.48, p=0.021*
• Husbands vs Cousins	+0.19, p=0.243	+0.54, p=0.019*	+0.15, p=0.412	+0.41, p=0.047*
Time since diagnosis (groups)	F=3.67, p=0.030*	F=8.94, p<0.001**	F=0.89, p=0.415	F=6.23, p=0.003**

*Note: * = p < 0.05 (significant at 5%); ** = p < 0.01 (very significant at 1%); *** = p < 0.001 (highly significant at 0.1%); n = 85.*

DISCUSSION

The findings of this study provide empirical evidence about nursing care quality perception from the perspective of family members of hospitalized Alzheimer's disease patients. Results reveal a complex panorama that requires deep analysis and critical interpretation in the context of existing scientific literature.

The regular perception identified (3.1/5.0) is consistent with previous studies that have documented limited satisfaction in different care contexts (Helgesen et al., 2020), including care quality in hospital institutions. An example is the study conducted by Moody et al. (2024) in hospital institutions where they found that care quality is below expectations, and nursing care for this vulnerable population requires improvement. Another study carried out by Scerri et al. (2017) shows that hospital care quality provided to people with dementia is insufficient and is compromised by an institutional culture centered on efficiency and risk, instead of dignity, empathy, and specific patient needs. They identify failures in staff training, lack of organizational support, and family exclusion, which contributes to stigmatization and negative outcomes in both patients and nurses. In fact, given this situation, Shepherd et al. (2019) indicate that hospitalizations in people with dementia are associated with poor health outcomes, which may be an indication of care deficiencies, especially when compared to patients without dementia. A study conducted by Al-Hussami et al. (2023) concludes that although nurses show a positive attitude toward people with Alzheimer's, their knowledge level is deficient, which represents a limitation for offering quality care, which is perceived by families as regular to deficient.

Critical deficiencies in emotional/psychological care (55.3% dissatisfaction) are consistent with multiple previous investigations about humanized and psychoemotional care that nursing professionals should offer. Guerrero-Ramírez et al. (2017) found that humanized care provided by nurses was rated as "regular" in 52% of cases, with deficiencies in nurse-patient relationship (65% regular) and ethical aspects of care (65% regular), evidencing systemic challenges in the emotional and humanized dimension of nursing care. While Scerri et al. (2020) documented that social contact and self-esteem needs of dementia patients, including dignity and respect, were frequently ignored, causing them to feel devalued. Cabrera Carreño (2022) expands this perspective by identifying that care dehumanization is not always generated by nursing professionals, but factors such as patient demand, work overload, emotional exhaustion, and lack of material resources affect care quality.

The strength identified in communication (50.6% satisfaction) is compatible with some international findings. Francia Luna (2020) found that 78.6% of families perceive nursing assertive communication as 'moderately favorable', with weakness in non-verbal communication (91.4% moderately favorable). Another study carried out by Pintado (2017) found that when nursing personnel use communication strategies recommended by literature, including maintaining eye contact, using simple vocabulary, giving time to respond, and paying attention to patient gestures with older adults or those with cognitive deficiencies, the quality of communication with patient and family is appropriate. This increases patient and family satisfaction regarding communication during their care. These findings suggest that when effective communication strategies are implemented, positive perception of communicative quality can be achieved, as evidenced in our study. However, there are other studies that contrast with others found in Puerto Rico, such as the one developed by Toles et al. (2018), who reported poor communication from both staff and clinical professionals in end-of-life care for residents with advanced dementia. This difference could be explained by specific characteristics of the studied acute hospital context and particular institutional policies that prioritize effective communication with families.

Significant positive correlations between all dimensions confirm the interrelated nature of nursing care and are consistent with theoretical frameworks of integral attention. Various studies support the need for a multidimensional approach in Alzheimer's patient care. Díaz Usme (2020) emphasizes that attention requires a multidisciplinary team to favor quality of life, while Oliveira Farfán et al. (2017) document that nursing teams integrate multidisciplinary actions developing humanized care that encompasses both patient and family. Naranjo Hernández et al. (2021) define care as relationships established between personnel, multidisciplinary team, patient, and family, considering modifications of physical and social environment from clinical, epidemiological, humanistic, and inclusive integration. In fact, the strongest correlation between physical care and general satisfaction (r = 0.724) from the study conducted in Puerto Rico suggests that physical care perception is a fundamental predictor of global satisfaction, confirming that an integral approach addressing multiple dimensions is essential for optimizing family satisfaction.

The negative effect of time elapsed since diagnosis is consistent with Alzheimer's natural progression and increased complexity of care needs. Zhao et al. (2022) identified that family caregivers experience growing stress and insufficient support as the disease progresses, which can influence their evaluations of professional care. Meanwhile, Herring et al. (2021) documented that Alzheimer's is a chronic and progressive disease that places substantial burden on both patients and caregivers, with predictable transitions between severity levels from mild cognitive impairment to severe dementia. Their model demonstrated that disease natural progression results in greater probability of institutionalization and loss of quality-adjusted life years for caregivers, which can explain more critical evaluations by family members as time since diagnosis increases. Researchers like Yates et al. (2021) found in their systematic review that receiving a dementia diagnosis is generally a negative process for caregivers, leaving them with feelings of uncertainty about the prognosis and future of the person they care for. This initial uncertainty and lack of guidance about diagnosis implications can contribute to family members developing higher expectations and more critical evaluations of nursing care as the disease progresses.

CONCLUSION

This study provides empirical evidence about nursing care quality perception from the perspective of family members of hospitalized Alzheimer's disease patients. It reveals a complex panorama that requires immediate attention and differentiated improvement strategies. Findings confirm a regular perception of care (3.1/5.0) with marked variations between dimensions, where emotional/psychological care emerges as the most critical area requiring immediate intervention. While communication stands out as the main strength during nursing care for Alzheimer's patients.

Significant positive correlations between all dimensions demonstrate the interrelated nature of nursing care, confirming that improvements in any area can generate positive effects in other dimensions. Sociodemographic factors, particularly time elapsed since diagnosis and experience as caregiver, significantly influence evaluations that family members make of nursing care. Similarly, it was evidenced that quality perceptions are modulated by disease progression and accumulated care burden.

The results of this study provide a solid empirical base for developing specific interventions that address identified deficiencies while strengthening successful competencies. It is recommended to implement specific protocols for emotional/psychological care of Alzheimer's patients, develop continuing education programs for nursing personnel that include specialized competencies in dementia. Additionally, establish a continuous evaluation system of perceived quality that allows monitoring improvements and adjusting interventions according to identified needs.

Finally, it is suggested to strengthen interdisciplinary collaboration through protocols that integrate nursing, medicine, social work, occupational therapy, and families. This way, treatment with a holistic, person-centered approach that optimizes all aspects of Alzheimer's patient care in hospital environments is ensured.

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