

Nurses` Caring Behaviors as Perceived by Hospitalized Geriatric Patients' and its Relation to their Satisfaction with the Quality of Nursing Care

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Abstract:

Background: In today's consumer oriented healthcare markets, a patient centered care and satisfaction with the quality of nursing care are major components of hospital quality management. An important part of caring is the patient's perspective of what constitutes this caring and the outcomes of this care. Because nurses' unique role places them at the bedside providing care 24 hours a day, they play a pivotal role in ensuring that patients receive high quality care. Thus, understanding how these caring behaviors affect the quality outcomes is essential to the further development of nursing practice. **Aim of the study:** To determine hospitalized geriatric patients' perception of nurses' caring behaviors and its relation to patients' satisfaction with the quality of nursing care.

Materials and Methods: A descriptive correlational research design was selected. **Setting:** This study was carried out in the medical and surgical inpatient departments of the Main University Hospital in Alexandria, Egypt. **Subjects:** the study was conducted on 150 geriatric patients admitted to the previously mentioned setting. **Tools of data collection :** (1) Hospitalized geriatric patients' Socio-Demographic and Clinical Data Structured Interview Schedule, (2) the Caring Behavior Inventory for Elders (CBI-E) (3) The Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ).

Results: The study revealed that 90.0% of hospitalized geriatric patients moderately perceived that their nurses were practicing nurse caring behaviors. 55.3% of hospitalized geriatric patients held a low degree of satisfaction toward nursing care and less than half (44.7%) held a moderate degree of satisfaction. Statistically significant relationships were evident between geriatric patients' perception of nurses' use of caring behavior and geriatric patients' satisfaction with provided nursing care.

Conclusion: The caring behaviors provided by the nurses and perceived by the geriatric patients were significantly affect the geriatric patient satisfaction with the quality of nursing care.

Recommendations: Develop and implement in-service educational programs for all nurses caring for hospitalized geriatric patients to raise their awareness about uniqueness of older adult population and respecting their autonomy.

Key Word: Hospitalized patient, Geriatric Patients, Nurse caring behavior, Patient satisfaction, Quality of nursing Care, Gerontological nurse.

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I. Introduction

The new concept underling geriatric patients' caring behaviors perception and their satisfaction of such care have received attention in the scientific, professional, and practical arena within the gerontological nursing discipline. Further, there is a beginning focus on the link between geriatric patients' ratings of the nurse caring behavior and their satisfaction with nursing care provided^{1,2}.

Statistical trends demonstrate that geriatric patients are the largest population increasing within the hospital setting. Many older adults are admitted with acute exacerbations of chronic comorbidities requiring polypharmacy with increased cognitive and functional impairment which increase their risk for adverse outcomes resulting from hospitalization. Being hospitalized considered the most stressful clinical situation with unfamiliar procedures, disruption of basic activities, financial burden, and the exposure to the ever-changing fast-paced hospital environment^{3,4}.

The core principles of caring behaviors of such stressors circle around the idea that the interpersonal relationship that gerontological nurses develop with their geriatric patients should be at the forefront of the work that they perform. While a considerable literature defining caring behaviors in different patient population, there

is a stingy literature that specifically addresses this special term in geriatric care⁵. Although the counterweight of WHO 2020, recognizes nurses as frontline care providers, the phenomenon of permanent shortages of nurses, specifically gerontological nurses in geriatric health care, is an increasingly prominent feature, resulting in negative patient outcome⁶.

Caring within senescent period outlines the framework of nursing roles and responsibilities that guide evidence-based aging practice to reach geriatric patients' clinical needs, expectations and circumstances while considering the training and competencies needed to provide high-quality coordinated care⁷. At the same time, quality of nursing care refers to meeting patients' needs through a purposeful care along with appropriate relationship, support, mutual respect, responsibility accountability⁸. Nursing care that embraces a caring-healing framework incorporates meeting needs by creating a comfortable environment that is conducive to healing, allowing the nurse to go beyond the physical surface and enabling access to the core of the humanness^{9,10}.

Caring is the main component of caring behavior that provide meaning to nursing act. Caring behavior can include greetings, preparedness, silence, listening, reminiscing, gentleness, kindness, faith and hope, healing environment, communication arts, guidance and respect¹¹⁻¹³. Higher level of caring behavior as manifested by geriatric patients can result in more adherence from patient side to nursing instructions and being an active participant in planning care provided, revealed lastly to better outcome. Further, nurses' communication skills and professional attributes, qualities and competences, all also activate the brighter side of patient perception of behaviors exemplified by a caring, which is very important component that influence the satisfaction of patients. Lack of caring behavior of nurses may impact to the psychological trauma of patients and negligence¹⁴.

Patient satisfaction is an important indicator and one of the most fundamental assessments of an effectiveness and quality of nursing care and outcome of healthcare services. Patient satisfaction is defined based on the patient's opinion and assessment of the quality of care they receive by staff nurses during hospitalization. The components of satisfaction include technical quality of care, physical environment, the availability and continuity of service and successfully of such care¹⁵. Geriatric patients' satisfaction is specifically credited to shortage nurse staffing, hospital environment along with increased stressors and anxiety associated with normal age-related physical changes, decreased visual acuity, loss of high-frequency hearing, and decreased pain perception, more risk for adverse occurrences such as falls, pressure ulcers, and medication errors than any other hospitalized population. Measuring geriatric patient satisfaction with nursing care could be effective in improving nursing service quality by facilitating the creation of standards for care while monitoring both results and patients' perceptions of quality^{16,17}.

As front-line health care providers, gerontological nurses have the greatest opportunity to directly affect the patient's perception of the caring experience through improving individualized and meaningful patient care interventions for older adults following hospitalization. Because effective caring behavior and interaction can boost patient's confidence with the care providers and enhance patient's loyalty to the nursing service providers, yet, there is limited research on what geriatric patient perceive as caring behaviors by nurses following hospital admission^{18,19}. Linkages also between nurse caring behaviors as predictive interventions affecting geriatric patient satisfaction with quality nursing care have not been explored extensively in the literature.

So, this descriptive-correlational study addresses the gaps identified in literature by aiming to determine the level of caring behaviors of nurses as perceived by geriatric patients, determine the level of geriatric patients' satisfaction with quality of nurses' care, and describe the relationship between the level of caring behavior and geriatric patients' satisfaction. Findings of this research questions may inform the need for resources to influence the design of nursing education within the academic and clinical settings in addition to practice interventions to improve patient care outcomes for this vulnerable population.

II. Aim of the study

To determine hospitalized geriatric patients' perception of nurses' caring behaviors and its relation to patients' satisfaction with the quality of nursing care.

III. Research Questions

To fulfill the aim of the study, the following questions were formulated:

Q1: What is the extent of nurses' use of caring behaviors from the perception of hospitalized geriatric patients?

Q2: What is the level of satisfaction experienced by hospitalized geriatric patients with the quality of nursing care provided?

Q3: Is there a relation between the nurses' caring behaviors and geriatric patients' satisfaction with the quality of nursing care?

IV. Materials and Method

Research design:

A descriptive correlational research design was used to achieve the purpose of the present study.

Setting:

This study was carried out in various medical and surgical inpatient wards and units of the internal medicine and surgical buildings and departments of the Main University Hospital in Alexandria, Egypt. This hospital is a referral hospital serves three governorates: Alexandria, Matrouh and El-Beheira and receives patients from urban and rural areas. It equipped with 1700 beds which offers medical and surgical care, serving population of all ages. It is the only hospital which contains a specialized unit for geriatric care all over Alexandria. The existing study was done in seven out of 39 units in internal medicine and surgical buildings of different specialties (24 medical units and 15 surgical units) namely: (Geriatric Medicine unit, Cardiovascular and Catheterization unit, Tropical Medicine unit, Liver and Gall-bladder unit, Oncology Surgical unit, Urologic Surgical unit, and Colon and Rectum Surgical unit). These units were selected because the higher admission rate of elders per three months frequencies.

Subjects: The study included 150 hospitalized geriatric patients admitted to the above-mentioned setting during the period of data collection and fulfilling the following criteria; aged 60 years and above, able to communicate, agreed to participate in the study, hospitalized for at least 48 hours in the unit, and didn't experience acute delirium during their hospitalization. The sample size was estimated using the Epi info 7.0 program based on these parameters; population size: 893, expected frequency 50%, acceptable error 10%, design effect 1%, confidence coefficient 95% and minimal sample size equals 148, reached to 150.

Tools:

Three tools were used for data collection

Tool I: Hospitalized geriatric patients' Socio–Demographic and Clinical Data Structured Interview Schedule: This tool was developed by the researchers based on the review of relevant literature to gather the socio-demographic characteristics and clinical data of the studied geriatric patients. It included two parts

Part 1: Socio-demographic data such as age, sex, marital status, level of education, and monthly income.

Part 2: Clinical data such as medical diagnosis, number of hospitalization in the past 2 years, geriatric patients' self-evaluation for health before the most recent hospital stay, way of hospital admission, and number of patients in the room.

II: The Caring Behaviors Inventory for Elders (CBI-E): This tool was developed by Wolf et al (2004, revised 2006) ^(20, 21) as a self-administered instrument to measure elders' perceptions of nurse caring behaviors. It is a valid and reliable inventory comprises 28 items which displays different nurse caring behaviors including attending to individual needs, showing respect, practicing knowledgeably and skillfully respecting autonomy and supporting religious/spiritual needs. The participants rated the extent to which they were perceived each item of nursing behavior using a three-point Likert scale ranging from 1 (rarely), 2 (sometimes), to 3 (often). The range of possible scores was 1-3, yields a total score ranged from 28 to 84. The higher scores representing a higher perception of nurse caring behavior.

III: The Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ): This tool was developed by Spence et al (2005) ⁽²²⁾ and derived from the patient judgment of hospital quality questionnaire (PJHQ, 1990) ⁽²³⁾. The PSNCQQ has 19 items, plus 3 additional questions designed to tap satisfaction with the overall quality of care during the hospital stay, overall quality of nursing care, and intention to recommend the hospital to family and friends. Each item of the PSNCQQ consists of “a sign-post” to designate the content of the question, followed by a more descriptive question. A 5-point Likert scale ranged from poor (1), fair (2), good (3), very good (4) to excellent (5) is used for each item of the PSNCQQ. A total score ranges from 19 to 95 with the higher score indicates higher level of satisfaction.

Method

1. Permission to carry out the study from the responsible authorities from the Faculty of Nursing, Alexandria University will be obtained.
2. An Official permission was obtained from administrative personnel to conduct the study. Explaining the purpose of the study, the date and the time of data collection was done by the researchers.
3. Tool I (Hospitalized geriatric patients' Socio–Demographic and Clinical Data Structured Interview Schedule) was developed by the researcher based on the review of relevant literature.
4. Tool II (CBI-E) and tool III (PSNCQQ) were translated into Arabic language by the researchers and tested for content validity by providing it for a panel of expertise in gerontological nursing and nursing administration departments and the required modifications were carried out accordingly.
5. Reliability test of tool II and III was done using Cronbach's coefficient alpha test. The reliability values were 0.948 for tool II and 0.929 for tool III.
6. A pilot study was conducted in order to assess the clarity and applicability of the study tools. Total of 6 participants were recruited for the pilot study and excluded from the main study sample.

7. Each older adult who fulfilled the inclusion criteria was interviewed individually by the researchers in the department and the researchers explained the purpose of the study in order to gain the geriatric patients' cooperation, then the necessary data was collected.
8. The researchers collected the data through structured interview for about 30 minutes
9. Data were collected over a period of 3 months from the beginning of April till the end of June 2019.

Ethical considerations

A written approval was obtained from the hospital responsible authorities at the previous mentioned settings to conduct the current study. All subjects were informed that participation in the current study is intentional, and the data collected will be used only for research purpose, and anonymity and confidentiality of each participant was protected by allocation of a code number for each response. The participants were informed that they can leave at any time during the study without giving reasons.

Statistical analysis of the data

Data were fed to the computer and analyzed using IBM SPSS software package version 20.0. (Armonk, NY: IBM Corp) Qualitative data were described using number and percent. Quantitative data were described using range (minimum and maximum), mean, and standard deviation. Significance of the obtained results was judged at the 5% level. The used tests were (1) Student t-test: for normally distributed quantitative variables, to compare between two studied groups, (2) F-test (ANOVA): for normally distributed quantitative variables, to compare between more than two groups, (3) Pearson coefficient: to correlate between two normally distributed quantitative variables, (4) Regression: to detect the most independent/ affecting factor for satisfaction scale, (5) Cronbach's Alpha: reliability Statistics was assessed using Cronbach's Alpha.

V. Results

Table no 1: shows the Characteristics of the studied hospitalized geriatric patients according to their socio-demographic characteristics and clinical data. The mean age of the participants was 68.11 ± 4.88 years. 70% of them fell in the category of 60 to less than 70 years. The dominant gender was males who constituted 59.3% of the sample. Of the hospitalized geriatric patients, 61.3% were married, 32.7% can read and write, and unavailability of enough income was documented by the majority of the study sample (82.7%). Considering the clinical data, Geriatric patients in the internal medical units constituted 60% of the study subjects whereas those in the surgical units were 40%. 43.3% of the study participants were hospitalized three times in the last two-year period. 36.7% of the participants rated their health condition as good. Hospital admission was preceded by direct patients' registration to the unit (58.7%), who were mostly in share rooms (67.3%). Cardiovascular disorders were the mainly reported co-morbid condition (35.3%), approximately similar percent 16.7% and 16.0% were suffered from hepatic and GIT disorder respectively.

Table no 1: Distribution of the studied hospitalized geriatric patients according to their socio demographic characteristics and clinical data (n = 150).

Socio-demographic characteristics and clinical data	Frequency (n=150)	Percent (%)
Age (years):		
60 – 70	105	70.0
71 – 80	45	30.0
Mean \pm SD.	68.11 \pm 4.88	
Sex:		
Male	89	59.3
Female	61	40.7
Marital Status:		
Married	92	61.3
Widow	33	22.0
Divorced	13	8.7
Single	12	8.0
Level of education:		
Illiterate	23	15.3
Read and Write	49	32.7
Preparatory Education	41	27.3
Secondary	37	24.7
Monthly income:		
Not enough	124	82.7
Enough	26	17.3
Unit:		
Medical	90	60.0
Surgical	60	40.0
Number of hospitalization in the past 2 years:		

Only once	35	23.3
Twice	40	26.7
3 times	65	43.3
4 times	10	6.7
Self-evaluation for health before the most recent hospital stay:		
Excellent	25	16.7
Good	55	36.7
Fair	24	16.0
Poor	36	24.0
Very Poor	10	6.7
Way of hospital admission:		
Admitted through the emergency department	10	6.7
Transferred from another facility	52	34.7
Admitted through patient registration/to the unit directly	88	58.7
Number of patients in the room:		
One	0	0.0
Two	49	32.7
More than two	101	67.3
Current diagnosis:		
Cardiovascular disorders	53	35.3
Hepatic disorders	25	16.7
GIT disorders	24	16.0
Renal disorders	23	15.3
Respiratory disorders	13	8.7
Blood disorders	12	8.0

Table no 2: The results in table 2, based on data obtained from Caring Behavior Inventory for Elders, categorized supporting religious/spiritual beliefs as the most reported caring behavior by the geriatric patients and performed by nurses through their daily care (2.74 ± 0.51). This was following by showing concern (2.31 ± 0.86), recognizing geriatric patients' feelings (2.27 ± 0.65), practicing care knowledgeably and skillfully by professional pursuit of needed procedures (2.13 ± 0.85), and follow exactly patients' treatment schedule (2.05 ± 0.85). For more illustration, the least frequently notified nurses' caring behaviors was patient appreciation as a unique person (1.29 ± 0.59). This was preceding by doing the best toward sickness (1.39 ± 0.49), speaking to patient with a clear, friendly voice (1.42 ± 0.65), respecting autonomy by helping patient and his/her family make decisions (1.54 ± 0.70), and lastly including patient when planning his/her care (1.55 ± 0.60). The mean and standard deviation of scores of overall geriatric patients' perception of Caring Behaviors in all items was 51.37 ± 4.82 .

Table no2: Mean score of Caring Behaviors Inventory for Elders (CBI-E) as reported by hospitalized geriatric patients (n = 150).

Q	Caring Behaviors Inventory for Elders (CBI-E)	Mean± SD.	Rank
6	Assisting you to meet your religious or spiritual needs.	2.74 ± 0.51	1
24	Showing concern for you.	2.31 ± 0.86	2
8	Recognizing how you feel.	2.27 ± 0.65	3
10	Knowing how to give you needles, enemas, treatments, etc.	2.13 ± 0.85	4
25	Giving your treatments and medicines on time.	2.05 ± 0.85	5
23	Managing your pain.	2.03 ± 0.58	6
16	Being pleasant with you.	1.99 ± 0.58	7
28	Giving you a hand when you need it.	1.98 ± 0.72	8
7	Helping you feel comfortable.	1.95 ± 0.63	9
12	Appreciating your life story.	1.93 ± 0.50	10
1	Carefully listening to you.	1.92 ± 0.67	11
9	Being patient with you.	1.92 ± 0.63	12
18	Protecting your privacy.	1.89 ± 0.51	13
15	Checking on you.	1.88 ± 0.66	14
20	Meeting your needs whether or not you ask.	1.84 ± 0.54	15
21	Responding quickly to your call.	1.80 ± 0.79	16
11	Adjusting to your limitations.	1.75 ± 0.73	17
14	Knowing your likes, dislikes, and routines.	1.75 ± 0.73	18
5	Being honest with you.	1.71 ± 0.58	19
27	Standing up for your interests	1.65 ± 0.60	20
4	Calling you by your preferred name.	1.57 ± 0.67	21
19	Watching out for your safety.	1.57 ± 0.50	22
2	Helping you to feel at home.	1.55 ± 0.75	23
17	Including you when planning your care.	1.55 ± 0.60	24
3	Helping you and your family make decisions.	1.54 ± 0.70	25
13	Speaking to you with a clear, friendly voice.	1.42 ± 0.65	26
26	Trying to relieve your ailments.	1.39 ± 0.49	27

22	Appreciating you as a unique person.	1.29 ± 0.59	28
Overall CBI-E Score		51.37 ± 4.82	

Table no3: represents that 90.0% of the studied geriatric patients perceived the nurses' caring behaviors provided to them during hospitalization period as moderately in degree, compared with only 10% of low level of perceived nurse caring behaviors.

Table no3:Distribution of the studied hospitalized geriatric patients according to their level of Perceived nurses' Caring behaviors (n = 150).

Level of elders Perception of nurse Caring behaviors	No.	%
Low Perceived nurse Caring behaviors (<33.33%)	15	10.0
Moderate Perceived nurse Caring behaviors (33.4 - < 66.6%)	135	90.0
High Perceived nurse Caring behaviors (≥66.7%)	0	0.0
Mean ± SD (%)	41.73 ± 8.61	

Table no4: elucidates that, the mean scores of overall geriatric patients' satisfaction with nursing care quality was 43.19 ± 4.64. The first five ranking items (from the best) describing the standard, character and goodness of nurses' care provided to the hospitalized geriatric patients were provision of patients' privacy (2.77 ± 0.91), concern, friendliness and caring with kindness (2.71 ± 0.99), multidisciplinary team coordinated care during admission (2.67±0.93), involving family or friends in patient care (2.60±1.05), and finally skill and competence of nurses (2.58± 1.02). Talking about the minimally and the least graded items announced the nurses' work obligations toward geriatric patients (from the worst) were coordination of care after discharge (1.67 ± 0.47), adjustment of nursing daily routine to fit patients' needs (1.67 ± 0.62), willingness of the nurse to give information and answer patients' questions (1.85 ± 0.67), restful atmosphere provided by nurses (1.97 ± 0.81), and eventually giving clear and complete discharge instructions (1.98 ± 0.86).

As for the additional three questions that reflect the overall patients satisfaction with nursing care quality (Q20, Q 21, Q 22), quality of care and services received by geriatric patients in the medical and surgical units during the hospital stay were the highest scored questions' item (1.69 ± 0.79), followed by overall quality of nursing care (1.64 ± 0.69), while the lowest mean score was linked with the hospital recommendation to the family and friends based on the level of services received (1.57 ± 0.61).

Table no 4: Mean score of patients Satisfaction with nursing care quality questionnaire as reported by hospitalized geriatric patients (n = 150).

Q	Patients Satisfaction with the quality of nursing care questionnaire	Mean ± SD.	Rank
17	Privacy: Provisions for your privacy by nurses	2.77 ± 0.91	1
7	Concern and Caring by Nurses: Courtesy and respect you were given; friendliness and kindness	2.71 ± 0.99	2
15	Coordination of Care: The teamwork between nurses and other hospital staff who took care of you	2.67 ± 0.93	3
6	Involving Family or Friends in Your Care: How much they were allowed to help in your care	2.60 ± 1.05	4
14	Skill and Competence of Nurses: How well things were done, like giving medicine and handling IVs	2.58 ± 1.02	5
2	Instructions: How well nurses explained how to prepare for tests and operations	2.52 ± 0.78	6
13	Nursing Staff Response to Your Calls: How quick they were to help	2.51 ± 1.27	7
5	Informing Family or Friends: How well the nurses kept them informed about your condition and needs	2.41 ± 1.18	8
9	Recognition of Your Opinions: How much nurses ask you what you think is important and give you choices	2.35 ± 0.98	9
12	Helpfulness: Ability of the nurses to make you comfortable and reassure you	2.27 ± 1.17	10
4	Information Given by Nurses: How well nurses communicated with patients, families, and doctors	2.24 ± 0.95	11
8	Attention of Nurses to Your Condition: How often nurses checked on you and how well they kept track of how you were doing	2.18 ± 0.90	12
10	Consideration of Your Needs: Willingness of the nurses to be flexible in meeting your needs	2.17 ± 1.03	13
1	Information You Were Given: How clear and complete the nurses' explanations were about tests, treatments and what to expect	2.07 ± 0.87	14
18	Discharge Instructions: How clearly and completely the nurses told you what to do and what to expect when you left the hospital	1.98 ± 0.86	15
16	Restful Atmosphere Provided by Nurses: Amount of peace and quiet	1.97 ± 0.81	16
3	Ease of Getting Information: Willingness of nurses to answer your questions	1.85 ± 0.67	17
11	The Daily Routine of the Nurses: How well they adjusted their schedules to your needs	1.67 ± 0.62	18
19	Coordination of Care After Discharge: Nurses' efforts to provide for your needs after you left the hospital.	1.67 ± 0.47	19

Overall PSNCQQ Score		43.19 ± 4.64
20	Overall quality of care and services received by elders during the hospital stay	1.69 ± 0.79
21	Overall quality of nursing care received by elders during the hospital stay	1.64 ± 0.69
22	Based on nursing care the elder received, he recommends this hospital to his family and friends.	1.57 ± 0.61

Table no 5: From table 5, we can denote the level of satisfaction that studied hospitalized geriatric patients had regarding the quality of nursing care. Less than half of them (44.7%) were moderately satisfied with level of care, with unexpected result of finding none of them expressed higher satisfaction with the nurses' performance. The higher percent, unfortunately, prevail with low level of satisfaction for more than half of the sample (55.3%) regarding nurses' act, with 31.82 ± 6.10 of the mean total score percent.

Table no 5: Distribution of the studied hospitalized geriatric patients according to their level of satisfaction with nursing care quality (n = 150).

Level of geriatric patients satisfaction with nursing care quality	Hospitalized geriatric patients	
	No.	%
Low satisfaction (<33.33%)	83	55.3
Moderate satisfaction (33.4 - < 66.6%)	67	44.7
High satisfaction (≥66.7%)	0	0.0
Mean ± SD (%)	31.82 ± 6.10	

Table no 6: illustrates the correlation of hospitalized geriatric patients – perception of nurse Caring behaviors and their satisfaction with the quality of nursing care. It appears from this table that patients – perception of nurse Caring behaviors had a moderate positive significant correlation with patient-satisfaction with nursing care quality ($r = 0.501^*$, $p < 0.001^*$).

Table no 6: Relation between Geriatric patients' Perception of nurse Caring behaviors and their Satisfaction with Quality of Nursing Care (n = 150).

Item	Geriatric Patients Satisfaction with quality of Nursing Care
Geriatric Patients Perception of Nurse Caring Behaviors	$r = 0.501^*$ $p < 0.001^*$

r: Pearson coefficient

The absolute value of r:

0.00 – 0.19: “very weak” , 0.20 – 0.39: “weak, 0.40 – 0.59: “moderate”, 0.60 – 0.79: “strong”
 0.80 – 1.0: “very strong”

Table no 7: shows the multivariate Linear regression for caring behaviors that mostly affected the patients satisfaction with the quality of nursing care among the hospitalized geriatric patients. The value of regression coefficient was ($R^2=0.523$) which reflect presence of a positive statistical significant correlation between six caring behaviors and the satisfaction with quality of nursing care. Appreciating patient as a unique person ranked as the first perceived caring behavior that affect the geriatric patients satisfaction with the quality of nursing care according to the regression analysis, as it have four time effect ($B=4.784$) on geriatric patients satisfaction compared to other caring behaviors. Followed by giving patient a hand when need and trying to relieve patient suffering/illness as both of them have three time effect ($B=3.682$ and 3.287) on geriatric patients satisfaction compared to other caring behaviors respectively.

Moreover, meeting patient religious or spiritual needs, continuously meeting patient needs, and including patient when planning care have two time effect ($B=2.316$, 2.218 , and 2.045) on elder satisfaction compared to other caring behaviors respectively. All of the six caring behaviors have a positive significant effect on elders' satisfaction with the quality of nursing care ($p < 0.001^*$, $< 0.001^*$, 0.001^* , 0.006^* , 0.025^* , and 0.011^*) thus means that increase in those perceived caring behavior lead to increase the geriatric patients satisfaction with quality of nursing care.

Table no 7: The multivariate linear regression for nurses caring behaviors that mostly affected the hospitalized geriatric patients' satisfaction with the quality of nursing care.

Caring Behaviors Inventory Item	ANOVA test		R ²	Student t-test		
	F	p-value		B	t	p-value
Q22-Appreciating you as a unique person.	26.151*	<0.001*	0.523	4.784	5.298*	<0.001*
Q28- Giving you a hand when you need it.				3.682	4.861*	<0.001*
Q26- Trying to relieve your ailments.				3.287	3.377*	0.001*
Q6- Assisting you to meet your religious or spiritual needs.				2.316	2.813*	0.006*
Q20-Meeting your needs whether or not you ask.				2.218	2.269*	0.025*
Q17-Including you when planning your care.				2.045	2.570*	0.011*

F, p: F and p values for the model, F test (ANOVA) R²: Coefficient of determination
 B: Unstandardized Coefficients t: t-test of significance
 *: Statistically significant at p ≤ 0.05

VI. Discussion

As the life expectancy and number of older persons increase, a key challenge for the health care system is how to best manage the problems and meet the needs of an ageing population. Ageing present challenges to the health-care system, geriatric patient uses significant portions of hospital care and are at the greatest risk for negative outcomes than any other age group^{24, 25}. They are prone to severe dependency in daily activities, increase in further complications, and prevalence of more side effects from multiple medication interactions. In addition, illnesses often presented with pain and discomfort, feeling burden on others, and hospitalization induces confusion from relocation and lack of new environment orientation²⁶.

Nurses caring behaviors such as respect for the elders, assurance of humanistic presence, positive communication, professional knowledge and skills can cause a sense of security and reduction of anxiety. The harmony between caregiver and care recipient may enhance the geriatric patients' satisfaction. Nowadays, the patient satisfaction with nursing care quality is used as an important indicator of the hospitals' service quality²⁷⁻³⁰. Therefore, evaluation of nurse caring behaviors from patient perspective and their satisfaction with the quality of nursing care can provide better feedback for nurses and nursing administrators.

Accordingly, the present study aimed to determine hospitalized geriatric patients' perception of nurses' caring behaviors and its relation to patients' satisfaction with the quality of nursing care.

The current study revealed that there was a moderate positive significant correlation between patients' perception of nurse Caring behaviors and their satisfaction with nursing care quality (r= 0.501*, p <0.001*) (Table no 6). The results of Wolf et al (2003)²⁷, Green and Davis (2005)³¹, Hajinezhad et al (2007)³², Rafii F et al (2009)³³, and Azizi-Fini I et al (2012)³⁰ are in accordance with the findings of the present study as they found a significant positive correlation between patient perceptions of nurse caring behaviors and patient satisfaction with nursing care. Also, study done by BuccoT (2015)¹³, showed that 27% (p<0.05) of the patients' satisfaction is correlated with patients' perception regarding nurse caring behaviors. Furthermore, the results of Abdullah S et al (2017)² found that the patients' perception regarding nurse caring behaviors significantly predicted patient satisfaction. On the contrary, a study done by Burtson P. L. and Stichler J. F. (2010)³⁴ showed a negative relationship between patients' perception of nurse caring and their satisfaction.

In the present study the majority of the studied geriatric patients perceived moderate level of nurses caring behaviors provided to them during hospitalization and none of them perceived high level of nurses caring behaviors (Table no 3). Moreover, more than half of them prevail with low level of satisfaction with the quality of nursing care (Table no 5). A probable explanation of the current result is the discrepancy between the patients' expectations and care they are receive. Furthermore, this could be explained by the improper knowledge about the specific needs and problems of this specific age segment which could reflect in a passive consequence upon the elders' perception of care quality. In addition to, increase nurses' responsibilities and workloads making traditional nurse-patient relationships which confirm caring aspect difficult to achieve. Similar to the present study Zabolypour S et al (2017)¹² reported that nursing caring behaviors were at a moderate level from the patient's point of view. Study done in Ethiopia (2019)³⁵ found nearly the same result of the present study and concluded that about one in two patients were not satisfied with the nursing care provided to them. Conversely study done by PaleseA et al (2011)¹ to examine surgical patient satisfaction as an outcome of nurses' caring behaviors stated that a majority of patients reported high levels of patient satisfaction.

Several explanations for low level of patient's satisfaction with nursing care were stated in the literature including: a shortness of nursing numbers in relation to their duties and responsibilities and much number of patients, especially, increasing proportion of elders within an overall population age structure of nearly all nation. Egypt has one of the lowest qualified nurses to population ratios in the region. The majority of nurses in Egypt (almost 90%) are high school diploma graduates which is considered to be inadequate or insufficient quality nurse education. Those assistant nurses are typically the lower educated nurse category^{36, 37}.

The results of the present study also noted that the highest mean scores for nurses caring behaviors as perceived by the studied geriatric patients were assisting the patients to meet their religious/spiritual needs as the

most reported caring behavior by the geriatric patients (2.74 ± 0.51). This was following by showing concern (2.31 ± 0.86), recognizing geriatric patients' feelings (2.27 ± 0.65), knowing how to give you needles, enemas, treatments (2.13 ± 0.85), and giving patient treatment and medication on time (2.05 ± 0.85) (Table no 2). An explanation of this result might be that, nurses help the patients to accept life challenges, coping with stressors and provide compensatory activity for health loss by religious practices through the five daily prayers as they belief that illness is God test relieved by strong religious commitment. The finding of the present study is in line with that of lee et al (2014)³⁸, Agli et al (2015)³⁹, and Charlemagne-Badal et al (2016)⁴⁰, who found in their studies that nurses encourage the elders faith to help them cope with chronic illnesses and health problems, adapt to disability.

Also, the current study finding is in harmony with what reported by Ogugu (2011)⁴¹ who reported that patient ranked giving treatment and medications on time as the most important nurses caring behaviors. Rafii F (2009)³³ and Azizi-fini et al (2012)³⁰ also showed that professional knowledge and skills had the highest mean score of nurses caring behaviors. Afaya A et al (2017)⁴² who found that the most important caring behaviors were "giving patient treatment and medications on time" followed by "knowing how to give shots, IV etc". Similarly, another study conducted by Zamanzadeh V et al (2010)⁴³ also reported that oncology patients in an Iranian hospital ranked "giving treatment and medications on time" as the most important caring behavior, together with the current study findings may be ascribe to the universality and unique nature of nursing practice across the world.

On the other hand, the least mean score for nurses caring behavior as perceived by the studied geriatric patients revealed by the present study was patient appreciation as a unique person (1.29 ± 0.59). This was proceeding by doing the best toward sickness or malady alleviation (1.39 ± 0.49), speaking to patient with a clear, friendly voice (1.42 ± 0.65) (Table no 2). Moreover, appreciating geriatric patients as a unique person ranked as the first perceived caring behavior that affects their satisfaction. In this context, a study by Abd-El-Moniem et al (2015)⁴⁴ found that nurses appreciation of patient uniqueness as perceived by geriatric inpatients were significantly related to their satisfaction with the overall nursing care. In addition, geriatric patients view nurses as a submissive group of people who carried out the orders of physician and so had a limited role in alleviating their sufferings. In parallel, the reviewed studies done by Rafii F (2009)³³ and Azizi-fini et al (2012)³⁰ reported that respectful deference to others got the lowest mean score of nurses caring behaviors. Another study done by Wolf et al (2003)²⁷ contradict the result of the present study.

The present study portrayed that the lowest mean score of geriatric patients satisfaction with nursing care quality was linked with Coordination of care after discharge, adjustment of nursing daily routine to fit patients' needs, willingness of the nurse to give information and answer patients' questions, restful atmosphere provided by nurses, and eventually giving clear and complete discharge instructions (Table no 4). The presented dissatisfaction often back to the unsatisfactory communication from nurses unprepared, ill-educated, and with ageist attitudes to deal with older patients who had complex problems and needs. Additionally, the large number of patients and the shortage of nurses in the hospital and forcing them to perform technical routine care may cause nurses fatigue and have no or little time for patient education. Similar results were obtained from studies done by Rafii F (2009)³³ and Azizi-fini et al (2012)³⁰.

Finally, there is a window of opportunity to improve the satisfaction with quality of nursing care during hospitalizations for geriatric patients through effective caring behaviors. Nurses should continue to strive for excellence in their caring behaviors as caring is the core of nursing and is the essential factor that differentiates nurses from other health professionals. Patients' perceptions of nurses caring behaviors can have a significant effect on patient outcomes and patient satisfaction^{30, 45, 46}.

VII. Conclusion

Based on the outcomes of the present study, the researchers deduced that the majority of the studied hospitalized geriatric patients perceived moderate degree of nurses' caring behaviors. on the same line the perceived satisfaction level regarding the quality of nursing care was fall between two levels, low level which rated by more than half of the studied elders and moderate level that rated by the rest of them . The regression analysis between independent (nurse caring behaviors) and dependent variable (satisfaction), proved a moderate positive significant correlation. These findings highlights that the caring behaviors provided by the nurses and perceived by the geriatric patients were significantly affect the geriatric patient satisfaction with the quality of nursing care.

Recommendations

Based on the findings of the current research, the following recommendations are proposed:

1. Periodical evaluation of the quality of nursing care as well as patient satisfaction, should be an integral part of the comprehensive assessment of health care provided for hospitalized geriatric patients in order to

- identify early any malpractice behaviors in all nursing departments and to explore context-specific strategies in order to increase their satisfaction.
2. Develop and implement in-service educational programs for all nurses caring for hospitalized geriatric patients to raise their awareness about uniqueness of older adult population and respecting their autonomy. These educational programs can be done via workshops and seminars, web-based discussions, conferences and other internal hospital educational venues.
 3. The hospital authorities are recommended to hiring more qualified nurses therefore the amount and the quality of nurse patients' communication and opportunity for geriatric patient education and giving clear and complete discharge instruction would increase.
 4. Further research is recommended to evaluate and compare nurse caring behaviors from patient's and nurse's perspective as the assessment of the congruency between nurse and patient perceptions of caring behavior can help the health-care facilities to guarantee the provision of high-quality patient care.

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