

Abstract: Caring models in geriatric rehabilitation: an integrative review of the literature

Hospitalization in old age can be a difficult experience, which requires appropriate support from the health care team. To promote excellence in care, person centered care based on humanistic values are essential, especially in a geriatric rehabilitation service.

The aim of this integrative literature review was to explore whether a caring model or a caring approach are used in rehabilitation wards for elderly and to explore the issues or benefits on patient's care or on patient-nurse interactions. The review was constructed following the steps recommended by Whitemore and Knafl.

17 articles were selected. The results describe the nature of caring, the patients' perception of caring behaviours, the interactions between patients and nurses, the comparisons between nurses and patients perceptions of caring behaviors, the interventions of caring and finally the principal outcomes of the studies. This literature review shows some evidence for correlation between caring behaviors and patients' satisfaction. It highlights also the differences of priorities between patients and nurses on caring dimensions.

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Caring models in geriatric rehabilitation: an integrative review

Hospitalization in old age can be a difficult experience, which requires appropriate support from the health care team. Moreover, an elderly person in rehabilitation often suffers from very complex diagnoses and comorbidities. Given the evolving health system, the increasing economic pressures for productivity and effectiveness, and the shortage of care professionals, there is a risk of technocratic drift and dehumanized care [1]. To promote excellence in care, as recommended internationally and nationally [2-4], a person-centered approach is required [5, 6]. Therefore, integrating models of care that are person-centered and based on humanistic values are essential. This could reduce the current dilemmas and the increasing gap between what nurses are doing and what the care should be [1, 7] because nurses are expected to be caring persons. Especially in geriatric rehabilitation service, nurses should adopt a caring attitude and focus on caring relationships.

BACKGROUND

Rehabilitation aims to maximize functional independence and autonomy for the elderly. To achieve this, it is important to consider their personal preferences, values, and expectations for quality of life and well-being [8, 9]. A meta-synthesis of 42 qualitative studies highlighted that the main expectations of older patients are of a relational nature [10]. This includes being connected with their family and social environment, benefitting from a reciprocal relationship with health care teams, and being cared for by respectful and competent professionals because they play a key role in patients' well-being [10, 11]. The elderly also wished to receive recognition and reassurance [10] and to take part in decision-making processes [12]. Watson's theory of human caring [13] is a person-centered model with a humanistic–altruistic perspective. Caring is considered a relationship of reciprocity and commitment between patient and nurse. The focus is put on the spiritual–existential dimension, and the model proposes an approach oriented to the subjective experience of the person by valuing the human dimension of the care [14]. It is during encounters between the caregiver and the patient that a “transpersonal relationship” of Human Caring is created [13]. It connects in particular attention to the other and care – in “being with,” which constitutes the essence of caring. The research of connections with each other's mind and soul by sharing perceptions and experiences in an authentic presence will determine the direction of caring [15]. A caring transpersonal relationship also leads to a transformation of the nurse's role and posture [16] and contributes

to enriching professional practice. Therefore, the final goal of Watson's theory of Human Caring is to promote well-being and quality of life.

The purpose of this integrative review is to investigate rehabilitation care for the elderly that adopts a caring approach or a caring model such as Watson's theory of Human Caring. The question remains whether caring models, theories, or approaches are used in geriatric rehabilitation and the issues with or benefits to patient's care or patient–nurse interactions. We will discuss results, implications, and recommendations for nursing practice and future research.

METHODS

The review was constructed following the steps recommended by Whittemore and Knafl [17]: 1) problem identification, 2) literature search, 3) data evaluation, 4) data analysis, and 5) presentation.

Data sources

The literature search strategy consisted of consulting six electronic databases: CINAHL, Cochrane Library, PsycINFO, MEDLINE via PubMed, Web of Science, and Embase. The terms “caring attitude” or “human caring, or Watson's theory,” “rehabilitation,” and “elderly” were searched separately then combined using “and/or” associations. A number of variants on the previous search words were also used with MeSH terms or equivalent according to the database.

Inclusion/exclusion criteria

Studies were included if they a) focused on caring; b) concerned elderly or mixed age including elderly > 65 years hospitalized in rehabilitation or medical/surgical wards or nursing homes; c) were written in English or French, published within the last 10 years; and e) represented the field of nursing. The studies were excluded if a) the participants consisted of only family or relative caregivers; b) the hospitalization was in an intensive ward; or c) the topic of the study was a targeted intervention (i.e., educational program, technical support). Dissertations and books were also excluded. Both empirical and theoretical studies were retained.

Search outcome

The details of the search strategy and selection process are shown in the following flowchart (see Figure 1). These terms produced 345 studies. Each of the authors analyzed the titles and abstracts of these studies and verified the concordance of the results. After selection based on title and abstract, 17 articles were retrieved.

Data evaluation and analysis

After reading the selected studies, the authors came to a consensus regarding how to proceed with handling the data and analysis process. As recommended by Whitemore and Knafl [17], the process consisted of screening the overall data quality and reducing it into a classification system. A grid structured the following information: author(s), year of publication, country, setting, sample characteristics, study design, purpose of the article, methodological or theoretical approach, potential intervention, and overall findings (see Tables 1, 2, and 3). This procedure enabled a cross-reading to identify similarities, common themes, and specific features.

The 17 selected studies used either a quantitative ($n = 10$) [18-27] or qualitative design ($n = 7$) [12, 28-33], were conducted in Europe ($n = 6$) [21, 22, 24, 30, 31, 33], North America ($n = 7$) [12, 18, 20, 23, 25, 26, 29], Asia ($n = 3$) [19, 27, 28], or Australia ($n = 1$) [32]. Most of the studies have been conducted on patients and in health care centers [12, 18-26, 29, 30, 32], nursing homes, wards for older persons, or long-term care facilities [27, 28, 31, 33]. Participants in the studies were mostly elderly; however, three studies included young patients [18, 19, 21]. Some studies included patients and relatives, nurses, and/or other health professionals [22-25, 32, 33]. Three studies [12, 26, 29] were devoted exclusively to nurses.

RESULTS

The results are structured as follows: the nature of caring, the patients' perceptions of caring behaviors, the interactions between patients and nurses, the comparisons between nurses and patients' perceptions of caring behaviors, the interventions of caring, and finally, the principal outcomes.

Nature of Caring

Caring appears as essential and as a condition to improve patient care in the seven retrieved qualitative studies [12, 28-33]. All referred to Watson's theory, except Lindberg [31].

The caring relationship implies some characteristics. An attitude of respect for each other and for themselves [29, 30] is at the heart of engaging in a relationship of trust leading to active collaboration [28, 29], a feeling of having respectful communication, and initiating conversation while respecting autonomy [28]. Nurses have the responsibility of being open in their encounters in order to understand the situation, defined as the “responsibility to reach out to each other” [30] or as “getting to know you” [32]. This requires engagement [30] and empathy, allowing for authenticity with the patient [29]. Taking a caring approach promotes compassionate care [33] with a loving relationship; patients felt less lonely when nurses showed compassion [28]. However, some patients attached more importance to friendly interactions than to expert compassion [32].

The importance of the environment was highlighted: A familiar, friendly, and supportive environment is a powerful motivator [28, 31, 33], “enriching life” by facilitating a pleasant environment and treating residents as family members [34]. This implies a clear understanding of the context and cultural factors [30]. Patients also appreciated being recognized and having a “space for existence,” for example by tracing their overall “life as an entity” [31] and being supported in continuing life projects. A holistic vision of a person makes up part of the caring foundation [12, 28-30, 32, 33].

Some authors recommended combining the theory of caring with a model of practice [12, 33]. Thus, the nurse was guided by humanistic values at the centre of care and principles of caring and took advantage of caring opportunities by integrating the body, mind, and soul of the patient [12, 29]. “Calming the body,” which addresses the satisfaction of physical needs, assistance in daily activities, and demonstration of professional skills, was one of the identified themes [28]. By meeting patients’ needs, progress in the rehabilitation process was optimized. There was an investment of nurse and patient by anticipating the unrequired needs, engaging in moments of care, and recognizing the uniqueness of the rehabilitation process [12]. Caring attitudes also impacted the reduction of possible complications [29]. This approach was a path to autonomy and also offered security by maintaining psychological balance [12, 29]. Well-being is ensured, as well as physical, psychic, and psychosocial security [28, 29]. However, caring practice could face structural obstacles such as multidisciplinary work, continuing education, care organization not centered on patients’ needs, or lack of support from managers [29].

In the caring approach, the patient is considered in his or her uniqueness and wholeness [29]. To be treated as a unique human being, but also as a vulnerable human being, was appreciated by the participants [28, 31]. Vulnerability was described as “limiting life,” like a feeling of

rupture, not being at home, and a loss of autonomy. Patients struggled to maintain their lives. Because the nursing activities focused on meeting the needs of patients, they became aware of their limitations. Therefore, life was left in the hands of someone else [31].

The professionals perceived caring as a process of transformation toward three targets: patients, nurses, and the health care system. Caring was defined as increased professional kindness and accountability in care activities [29]. Humanistic values and approaches affected all spheres and were considered the center of care [12]. The enhancement of body–mind–spirit harmony occurred in the caregiver and the nurse [12]. The caring attitude led to a transformative process for nurses, with greater satisfaction, increased retention, and finding meaning at work [29]. Care was perceived as reciprocal and relational, with a profound and lasting transformation of being and functioning. The experience of “being with” was recognized as a profound encounter between the nurse and the patient [12].

Patients’ perceptions of caring behaviors

Caring behaviors of nurses were measured among patients with different versions of the Caring Behavior Inventory (CBI) (CBI-42, CBI-24, or CBI-28 for Elders) in six quantitative studies [18-23]. Some other instruments (CNPI [24], CFS [25], CACG [26]) were also used on nurses or dyads (see Table 4).

Only one study [19] used the original CBI (42 items), and the overall mean of all dimensions was 184.14 (SD = 46.90). Three of the dimensions were more favored: “assurance of human presence” (M = 52.24, SD = 14.89), “respectful deference to the others” (M = 51.06, SD = 13.63), and “positive connectedness” (M = 42.86, SD = 12.45), compared with “professional knowledge and skills” (M = 24.56, SD = 5.51) and “attentiveness to others’ experience” (M = 17.66, SD = 5.1).

Three studies used a shorter version of the CBI with only 24 items. In Keeley et al.’s study [18], the overall mean of the CBI-24 was 136.8 (SD = 12.79). The four highest items were: “encouraging the patient to call if there are problems” (M = 5.82, SD = 0.5), “treating the patient as an individual” (M = 5.76, SD = 0.579), “helping to reduce the patient’s pain” (M = 5.75, SD = 0.562), and “showing concern for the patient” (M = 5.75, SD = 0.551). In Palese et al.’s study [21], the CBI-24 index yielded an average score of 4.9 (SD = 0.8). The higher mean score was: “professional knowledge and skills” (M = 5.3, SD = 0.8), followed by “assurance of human presence” (M = 4.9, SD = 0.9), “respectful deference to the others” (M = 4.6, SD = 1.0), and the lowest, “positive connectedness” (M = 4.5, SD = 1.1). Papastavrou et al. [22], using the same instrument for patients, obtained, respectively: “professional knowledge and skills” (M =

5.30, SD = 0.78), which presented the highest mean; “assurance of human presence” (M = 4.96, SD = 0.85); “respectful deference to the others” (M = 4.72, SD = 0.98); and “positive connectedness” (M = 4.63, SD = 1.02).

Moreover, two studies used an adapted form of the original instrument, the CBI-28 for Elders. In Melchiorre Dey’s study [20], patients perceived a high level of caring. The summed CBI-28_E obtained a mean of 72.07 (SD = 6.78), without specific results for the five dimensions. In Sossong et al.’s study [23], the overall mean of the CBI-E for patients was 2.77, with some selected items presented for examples.

Finally, three studies with other distinct instruments [24-26] did not present descriptive results on caring behaviors, but only in correlation with other variables.

Interactions between patients and nurses

Three qualitative studies explored patient and nurse interactions with interviews and observations [30, 32, 33]. The findings showed that interactions are most of the time friendly or informative with simple exchanges. Henderson et al. showed that opportunities to develop closeness were rare and were only experts’ prerogative [32]. The study of Berg et al. [30] highlighted the responsibility to reach out to each other. Positive regard between nurse and patient in the daily care routine contributed to a mutual respect. Moreover, reciprocal engagement was a necessity to create a personalized and in-depth caring relationship. Finally, Dewar and Nolan [33] aimed to conceptualize “appreciative caring conversations” among staff, patients, and close relatives. Composed of two broad forms, these highlighted the knowledge of the patient and the little things that mattered to each other. The intention was “working together and to shape the way things are done.” In the same way, it was necessary to understand how people felt about their experiences. The authors proposed a model promoting compassionate relationship-centered care by being courageous, connected, curious, collaborative, celebratory, and compromising, and by considering other perspectives [33].

Comparisons between nurses’ and patients’ perceptions of caring behaviors

Two quantitative studies [22, 23] investigated the differences in perceptions of caring behaviors between nurses and patients with the same instrument (CBI).

Nurses in Sossong et al.’s study [23] rated their caring behaviors higher than did patients, with, respectively, an overall mean of 2.86 vs 2.77 ($Z = -1.907$, $p = .056$). Differences in overall mean analyzed by setting were significant in rehabilitation, oncology, and respiratory units but not in terms of demographic characteristics or education. Several individual items were rated higher

than the overall mean by the two groups. They consisted of “helping patients to feel comfortable,” “being pleasant with patients,” and “protecting their privacy and watching out for their safety.” In contrast, lower scores were obtained by nurses or patients for the items “helping patients to meet their spiritual needs,” “assisting them and their family to make decisions,” and “appreciating their life story.”

The survey conducted by Papastavrou et al. [22] in six European countries showed important differences in the comparisons of the four factors of the CBI between the patients and nurses. Although both groups perceived “knowledge and skill” as being the most important sub-scale (M = 5.30, SD 0.78 vs M = 5.29, SD = 0.63, 0.608), nurses presented higher means compared to patients ($p < 0.001$) in two sub-scales: “assurance of human presence” (M = 4.96, SD = 0.85 vs M = 5.10, SD = 0.68) and “respectful deference to others” (M = 4.72, SD = 0.98 vs M = 4.87, SD = 0.77). Furthermore, cross-country comparisons revealed important differences in perceptions of caring for nurses ($F = 24.199, p < 0.001$) and for patients ($F = 26.945, p < 0.001$) among the six countries. Finally, the comparisons between nurses and patients for each country separately showed varied results in terms of the factors that showed important differences.

Interventions of Caring

Four different caring interventions were proposed: the “standard of care protocol” by Keeley et al. [18], “nurse orientation unit with NICHE concepts of care” by Melchiorre Dey [20], “get to know me poster” by Goncalves et al. [26], and “nursing presence” by An and Jo [27]. They were inspired by several nurse caring theorists [18], by Swanson [26], or by Watson [20]. The last one [27] cited other philosophical roots [35]. Two of them were complex interventions with several components [18, 20], while the two others were only punctual and focused on the patient–nurse interaction [26, 27].

The former interventions [18, 20] were processes designed with a focus on environment, managerial strategies, and definition of outcomes for quality care. Both relied on evidence, were based on training sessions for professionals and interdisciplinary approaches, and offered specific support. In Keeley et al.’s study [18], caring activities were synthesized in six constructs and declined in more than 108 activities: showing an attitude of respect (29 activities), being competent (24 activities), being connected and available to others (11 activities), demonstrating confidence and being careful of individuals’ needs (12 activities), recognizing and considering other points of view (17 activities), and, finally, cooperating (15 activities) [18].

The innovative unit of the Melchiorre Dey study [20] provided a supportive environment with a readjustment of the nurse–patient space and a special focus on elderly patients’ frailties.

Moreover, the competencies of professionals were geriatric-oriented to create care plans with the multidisciplinary team [20].

The last interventions were either the use of a poster to communicate to others several points that are considered essential to the patient [26] or a program of physical and mental nursing presence composed of three stages with the purpose of openness, attention, caring, and evaluation [27].

Principal outcomes

Patient satisfaction

Patient satisfaction was the most studied outcome [18-21, 24], measured by three different instruments: the PSS, the PSI, or the HCAHPS (see dimensions in Table 4). Two studies used the PSS instrument. In Palese et al.'s study, the PSS yielded an average score of 3.3 (SD = .58). The higher mean score was for the technical scientific factor (mean = 3.4, SD = 0.6) and the lowest for the informational dimension (mean = 3.2, SD = 0.6) [21]. Elderly patients in Melchiorre Dey's study [20] experienced a high level of satisfaction with nursing care (M = 28.26, SD = 4.52), without details described by dimensions.

In Raffi's study [19], the mean PSI score was positive (M = 84.76, SD = 15.65), with a better score for the subscale "trust" (M = 36.28, SD = 6.64) in comparison with the lower score for "patient education" (M = 22.56, SD = 5.09).

In Keeley's study [18], which used the HCAHPS survey, after the intervention of caring ("standard of care protocol"), showed higher satisfaction scores of patients (> 80%) with "courtesy and respect" and "carefully listening" and a lower score (< 60%) with "comprehensible description of side effects of medicine." These items also presented high mean scores (between 3.67 and 3.79) in Pajnkihar's study [24].

Nurse caring behaviors and patient satisfaction

Correlation between caring behaviors and patient satisfaction was analyzed in three studies [19-21]. A positive result was obtained in Raffii et al.'s study [19] between CBI and PSI (Spearman $\rho = 0.72$, $p = 0.000$) and in Palese et al.'s study [21] ($\rho = 0.66$, $p < 0.001$) between CBI and PSS and ranging between countries ($r = 0.27$ to 0.85). In the last study of Melchiorre Dey [20], elders' perceptions of nurse caring behaviors were weakly correlated with satisfaction with nursing care ($\rho = 0.555$, $p = 0.000$).

Level of education and caring behaviors

Pajnkihar et al. [24] used multiple logistic regression to describe the relation between the 10 carative factors as predictors and education level as the outcome. The factor “sensibility” was related to level of nursing education, with higher levels in the group of nurses with no diploma. However, in the same study, scores could also depend on care settings. They found that the carative factor “sensibility” was related to the level of nursing education, with higher levels of in the group of nurses with no diploma. Persky et al. [25] also highlighted the influence of the profile of nurses on the perception/adoption of caring attitudes.

Other outcomes

The outcomes stress, cortisol level, and coping strategies were influenced by a caring intervention. An and Jo [27] showed that a nursing presence influences stress in the elderly. It was significantly lowered in the experimental group (EG) compared to the control group (CG) (36.57 ± 5.21 vs 45.05 ± 11.37 , $p = 0.005$) and specifically for “family stress” and “economic stress.” In the same way, cortisol level appeared to be significantly lower in the EG than in the CG ($p = 0.042$). Problem-focused coping strategies were more frequently used in the EG than in the CG (26.89 ± 6.14 vs 23.60 ± 3.58 , $p = 0.047$), whereas there was no significant difference in emotion-focused coping. Finally, Melchiorre Dey [20] showed that functional status (Katz ADL index) was not significantly correlated with elderly perceptions of nurse caring behaviors ($\rho = -0.007$, $p = 0.924$).

DISCUSSION

The results of this integrative literature study indicated that in geriatric rehabilitation settings, the caring approach or philosophy was not frequently investigated, except for one group of researchers, and in one country [12, 29, 36, 37]. According to St-Germain et al. and O’Reilly et al. [12, 36], the role of the nurse in rehabilitation required special attention. This limitation forced us to extend the scope of the review to other settings likely to use a caring approach. Nevertheless, the selected studies, from various countries, are proof of the general interest in the caring philosophy and of its universality.

The nature of this concept was clarified in five perspectives by Morse (1990, 1991), cited in Cook and Peden [38]. Several theorists view caring as a human trait, a moral imperative, an affect, an interpersonal relationship, and a therapeutic connection. For others, this humanistic nursing approach implies placing the patient and nurse in an authentic and transpersonal

relationship [39] and in a healing environment [40]. Forgiveness, love, compassion, and holistic care are also fundamental conditions [39-41]. Although there is a large body of studies on the subject, its definition and attributes continue to be discussed, and a lot of questions remain open.

In this review, qualitative studies focused on perceptions of caring from various points of view: (a) patients [28, 31], (b) nurses [12, 29], or (c) patient and nurse interactions [30, 32, 33]. Several similarities are obvious in patient or nurse accounts: considering the wholeness of the person [12, 29] and recognizing the patient's uniqueness [12, 28, 31] or the continuity of his/her overall life [29, 31]. In the same way, humanistic attitudes with mutual respect and trust were favored and considered the essential basis of an authentic relationship [12, 29, 33]. Differences appeared in nurses' records, with an emphasis on moral values and the feeling of accountability [29]. Likewise, the evaluation of the encounter between patient and caregiver was either described as a transformative experience [12] or viewed by patients as simple exchanges centered on satisfaction of physical needs [28, 32]. The necessity of a reciprocal commitment and a comprehensive and collaborative approach to reach out to each other was especially mentioned by patients [30, 33].

The quantitative studies offered data on (a) patients' perceptions of caring behaviors [18-26], (b) comparisons of caring perceptions between nurses and patients [22, 23], and (c) measures of various outcomes and their relationships with caring attitudes [18-21, 24, 25], with, for some of them, (d) a caring intervention proposed [18, 20, 26, 27].

a) Regarding patients' perceptions of caring behaviors, comparisons among studies are questionable given the multitude of instruments (four) measuring caring behaviors and their differences in statistical treatment. Generally, they showed high overall scores. The most striking similarity consisted of the choice of the dimension related to "professional knowledge and skills" in the first place, regardless of CBI form, with the highest scores [19, 21, 22]. Conversely, "positive connectedness" was ranked last [19, 21, 22].

(b) The unique similarity in Papastravou et al. and Sossong et al.'s studies [22, 23] is that both showed differences between patients and nurses in the perception of caring behaviors. Nurses gave higher ratings to caring behaviors than patients in most of the dimensions investigated. However, their scales (CBI 24 or CBI 28_elderly) presented a lot of differences in structure and dimensions, except for two of them ("professional knowledge and skills" and "show respect"). Synthesis is even more hazardous because one of the studies [22] was conducted in several European countries, presenting a lot of contrasts between them. Additionally, other studies in this review [18, 19, 21], using the CBI instrument (42 or 24), did not conduct comparisons for

caring behaviors between patients and nurses. They only correlated patients' perceptions of caring behaviors with satisfaction [18-21].

(c) Patient satisfaction was the most frequent outcome investigated. Despite the use of various measure instruments, the studies of Palese et al. [21], Rafii et al. [19], and Keely et al. [18] showed the lowest scores for items related to patient education or information. On the other hand, no similarity appeared for the higher scores in these studies. Finally, high correlations between caring behaviors and satisfaction were found for two of them [19, 21] although more weakly for the last one [20].

(d) In terms of studies with a caring intervention, similarities could be found between Keely et al. and Melchiorre Dey's studies [18, 20]. Both proposed complex interventions with various managerial and educative strategies and were conducted on an institutional level. They were interventional pilot studies with a mobilization of a lot of human resources either on a ward or institutional level, with the ambition of an institutional change in professional culture.

Limitations

The results of this integrative review were limited by the heterogeneity of the studies and the diversity of the contexts. The settings were all around Europe, North America, and Asia, and data were gathered in health care systems that were different in terms of structure, culture, professional education, or socioeconomic conditions. Researchers used a great diversity of qualitative or quantitative designs, with various participants (patients, patients and nurses, or others) and methods. The quantitative designs were most of the time descriptive or correlational, with only a few interventional designs with experimental and control groups. There were no randomized controlled studies. The use of a variety of instruments measuring perceptions of caring behaviors did not enable a large and deep comparative analysis. Moreover, when the scales were similar, the structure and their statistical treatment frequently differed.

CONCLUSION

The aim of this integrative review was to explore the application of Watson's theory of Human Caring or a caring approach in rehabilitation wards for the elderly. Considering the rare studies corresponding to all of our criteria, we widened the exploration to other caring models, health contexts, and populations. This literature review shows some evidence for correlation between caring behaviors and patient satisfaction. It also highlights the differences in priorities between patients and nurses on caring dimensions.

If caring behaviors are frequently studied, the concept of caring and its translation in instruments sometimes overlap in different dimensions. The greatest interest for future research would be to compare the perceptions of patients and nurses with similar cultural backgrounds in specific and comparable contexts. Furthermore, controlled designs, with well-defined caring interventions, could confirm the positive results found in some studies, or document more specifically the discrepancies. In particular, the low-valued educative and spiritual dimension implies for nursing practice the necessity to find new and innovative caring interventions to take into account these needs. Beyond context specificities, it appears that the effects of caring are strengthened for all actors when cultural changes occur on an institutional level.

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Table 1 Empirical studies on patients 'perceptions of caring					
Author(s) Origin	Design/ purpose	Sample/ Setting	Framework	Measures /intervention	Findings
An & Jo [27] South Korea	Pre-post quasi-experimental To determine the effect of a Nursing Presence (NP) program on stress in older adults.	Older patients (N=39) Experimental (EG; n=19) Control (CG; n=20) Nursing homes	Gardner	<ul style="list-style-type: none"> •Level of stress •cortisol level •coping strategies “Nursing presence” Program of physical and mental nursing presence composed of 3 stages with purpose of openness, attention, caring and evaluation <i>(8 times over 4 weeks)</i>	<ul style="list-style-type: none"> •Level of stress lowered in EG compared to the CG (36.57 ± 5.21 vs 45.05 ± 11.37, $p = 0.005$) and specifically for “family stress” and “economic stress”. •Cortisol lowered in the EG vs CG ($p = 0,042$). •Problem focused coping strategies were more frequently used in the EG than in the CG (26.89 ± 6.14 vs 23.60 ± 3.58, $p = 0.047$) coping
Berg et al [30] Sweden	Interpretative phenomenological To investigate how the caring relationship is formed between patients with long-term illness and their nurses in a medical context.	Patients (n=51) Nurses (n =10) Medical ward	Watson	<ul style="list-style-type: none"> •Participant observation •Field notes •Encounters 	Highlighted the responsibility to reach out to each other. Positive regard between nurse and patient in daily care routine contributed to a mutual respect. Reciprocal engagement was a necessity to create a personalized and in-depth caring relationship.
Hwang et al [28] Taiwan	Qualitative descriptive To elucidate the nature of caring by describing the experience of elderly residents.	Elderly residents (N=12) Long term care facilities	Swanson	<ul style="list-style-type: none"> •Semi-structured interviews 	The patient need to feel secure. Identified themes: “Calming the body”, which addresses the satisfaction of physical needs, assistance in daily activities and demonstration of professional skills, "Respectful communication" and being considered as a unique human being. This approach permit an "enriching life" by facilitating a friendly environment.
Keeley et al [18] USA	Pre-experimental pre-/post-test To determine the difference in inpatient satisfaction with overall nursing care and perceived nurse caring when a	Preimplementation Patient (N=280)	Watson Donabedian;	<ul style="list-style-type: none"> •CBI-24 •HCAHPS “standard of care protocol” included caring activities or	<ul style="list-style-type: none"> •CBI overall mean: 136.8 (SD =12.79, range= 76-204). •Higher satisfaction scores of patients (>80%) with “courtesy and respect” and “carefully listening” and the lower score

	nursing staff caring protocol was implemented.	Postimplementation Patient (n=239) Medical and surgical wards		behaviors for each of the 6 constructs of the protocol	(<60%) with “comprehensible description of side effects of medicine”
Lindberg et al [31] Sweden	Reflective lifeworld research (RLR) To describe the caring, as experienced by the older patients on a ward for older persons, with a specific focus on the team meeting (TM).	Older patients (N=15) Wards for older persons	Not specified	<ul style="list-style-type: none"> •Interviews RLR •Observation •Experience of TM 	Patients appreciated being recognized as unique but also as vulnerable human beings. They struggled for the maintenance of life. As the nursing activities focused on meeting the needs of patients, they became aware of their limitations. They also appreciated tracing their overall life because is an entity.
Melchiorre Dey [20] USA	Predictive correlational non-experimental The influence of the type of care unit on: - satisfaction with nursing care - functional status. - nurse caring behaviors - satisfaction with nursing care. - functional status decline	Older patients (N=180) Experimental: ACE (n=90) Control: telemetry (n=90) Medical-chirurgical wards	Leininger Watson	<ul style="list-style-type: none"> •CBI-28 Elders •PSS •Katz ADL Nurse Improving Care for Health System Elders (NICHE) model application: geriatric resource nurse (GRN) with advance-practice and acute care (ACE) elder unit with multidisciplinary team	<ul style="list-style-type: none"> •Summed CBI-28_E obtained a mean of =72.07 (SD=6.78, range of 26–78), •PSS: M=28.26, SD=4.52 •Elders’ perceptions of nurse caring behaviors were weakly correlated with satisfaction with nursing care (r = 0.555, p = 0.000) •Katz correlation NS (rho =-0.007, p=0.924). •Type of care unit (ACE vs Telmetry) had no effect on elders’ perceptions of nurse caring behaviors, satisfaction with care, or functional status outcome
Palese et al et al[21] Cyprus, Czech Republic, Finland, Greece, Hungary, Italy	Multicenter correlational To address three research questions : What is the correlation between caring as perceived by patients and patient satisfaction? Are there differences across various countries on the correlation on caring as perceived by patients by patient satisfaction? Do caring behaviors affect patient satisfaction?	Patients (N=1565) Surgical wards	Watson	<ul style="list-style-type: none"> •CBI-24 •PSS 	<ul style="list-style-type: none"> •CBI average score = 4.9 (SD= 0.8 minimum 1 and maximum 6). Mean score of dimensions: “professional knowledge and skills” (M=5.3, SD=0.8), “assurance of human presence” (M=4.9, SD=0.9), “respectful deference to the others“(M= 4.6 SD=1.0) “positive connectedness” (M= 4.5 SD=1.1). •PSS: average score of 3.3 (SD=.58); Higher mean score was for the technical scientific factor (mean = 3.4, SD = 0.6,

					range 1 to 4) and the lowest for the informational dimension (mean = 3.2, SD = 0.6) [21]
Rafii et al [19] Iran	Cross sectional To examine the relationship between hospitalized patients' reports of nurse caring and patient satisfaction.	Older and young patients (N=250) Medical and surgical wards	Watson	<ul style="list-style-type: none"> • CBI-42 • PSI 	<ul style="list-style-type: none"> • CBI overall mean of all dimensions was 184.14 (SD= 46.90). 5 dimensions: "assurance of human presence" (M= 52.24, SD= 14.89; "respectful deference to the others"(M= 51.06, SD=13.63); "positive connectedness" (M= 42.86, SD=12.45); "professional knowledge and skills" (M=24.56, SD=5.51); "attentiveness to other's experience" (M=17.66, SD=5.1) • The mean PSI score was positive (M=84.76, SD=15.65, range = 37-119) with better score for the subscale "trust" (M=36.28, SD=6.64, range = 15-53) versus "patient education" (M=22.56, SD=5.09, range = 7-34)
CBI: Caring behaviors inventory ; PSS : Satisfaction with the Patient Satisfaction ; PSI : Scale Patient Satisfaction Instrument ; HCAHPS : Hospital Consumer Assessment of Healthcare Providers and System ; ADL : Katz Activities Daily Living					

Table 2: Empirical studies on patients, nurses or others 'perceptions of caring (or caring attitudes)					
Author(s) origin	Design/ purpose	Sample /setting	Framework	Measures /intervention	Findings
Dewar & Nolan [33] United Kingdom	Appreciative inquiry (AI) To understand an agreeing definition of compassionate relationship-centered care and identifying strategies to promote such care in acute hospital settings for older people	Patients (n=10) Families (n=12) nurses and other health care staff (n=35) Wards for older persons	AI , relationship centred inquiry and action research	<ul style="list-style-type: none"> ●Collaborative approach ●Participant observation ●Interviews ●Story telling ●Group discussions ●Photo-elicitation. A 3 years program: LCCP (leadership in compassionate care program)	Highlighted the knowing of the patient and the little things that mattered to each other. The intention was “working together and to shape the way things are done”. The authors proposed a model promoting compassionate relationship – centered care by being courageous, connected, curious, collaborative, considering other perspectives, celebratory and compromising.
Henderson et al[32]	Descriptive and qualitative exploratory To explore what constitutes nurse-patient interactions and to ascertain patients' perception of these interactions.	Patients (n=35) Medical and surgical ward	Concept of caring (McCance/ Fingeld-Connett)	<ul style="list-style-type: none"> ●Interviews ●Observations of nurse-patient interactions ●Questionnaires 	Interactions are most of the time friendly or informative with simple exchanges. Opportunities to develop closeness were rare and were only experts' prerogatives.
Pajnkihar et al [24] Slovenia	Descriptive cross-sectional survey To examine the relationship between the level of nurse education and their perception of carative factors; relationships between nurses' and nursing assistants	Older Patients (n=1123) Members of nursing teams (n=1098) Medical and	Watson	<ul style="list-style-type: none"> ●CNPI ●HCAHPS 	<ul style="list-style-type: none"> ●Mean scores were high (between 3,67 and 3.79) [24]The factor “sensibility” was related to level of nursing education with higher levels to the nurses' group with no diploma. However, in the same study, scores could also depend on care settings. They founded that the carative factor “sensibility” was related to the level of nursing education, with higher

	perception of carative factors and patient satisfaction.	surgical wards			levels of this one to the group of nurses with no diploma <ul style="list-style-type: none"> • High mean scores between 3,67 and 3.79
Papastavrou et al [22] Cyprus, Czech Republic, Finland, Greece, Hungary, Italy	Cross cultural, descriptive comparative survey To compare patients' and nurses' perception of nurse caring behaviors across six European countries.	Young and older Patients (n=1659) Nurses (1195) Medical and surgical wards	Watson	<ul style="list-style-type: none"> •CBI- 24 	<ul style="list-style-type: none"> •CBI Dimensions for patients and nurses respectively: "Knowledge and skill" (M=5.30 SD 0.78 vs M=5.29 SD 0.63, p=0.608; "Assurance of human presence" (M=4.96 SD 0.85 vs M=5.10 SD 0.68 p<0,001); "Respectful deference to others" (M=4.72 SD 0.98 vs M=4.87 SD 0.77 p<0,001); "Positive connectedness" (M= 4.63 SD=1.02 vs 4.48 SD0.80, p =0.188. •Moreover, cross-country comparisons revealed important differences between the nurses' (F =24.199, p<0,001) and patients' views on caring (F =26.945, p<0.001).
Persky et al [25] USA	Participative action research (PAR) Psychometric study To examine the profile of nurse effective in caring.	Patient-nurse pairs (N= 85) Mental health unit Medical and surgical wards	Watson	<ul style="list-style-type: none"> •CFS •HES 	<ul style="list-style-type: none"> •Highlighted also the influence of the profile of nurses on the perception/adoption of caring attitudes.
Sossong & Poirier [23] USA	Comparative cross-sectional descriptive To determine if there were differences in patient and	Patients (n=228) Nurses (n=216)	Watson	<ul style="list-style-type: none"> •CBI-28 Elders 	<ul style="list-style-type: none"> •Caring behaviors higher than did patients with respectively an overall mean of 2.86 vs 2.77 (Mann-Whitney U Z =-1.907, p = .056)

	nurse perceptions of caring in an inpatient setting.	Medical and surgical wards			
<p>CBI: Caring behaviors inventory ; CNPI : Caring Nurse-Patient-Interaction scale; CFS : Caring Factors Survey ; HCAHPS : Hospital Consumer Assessment of Healthcare Providers and System ; HES : Health Environment Survey</p>					

Table 3 Empirical studies on nurses' perceptions of caring (or caring attitudes)					
Author(s) origin	Design/ purpose	Sample /setting	Framework	Measures /intervention	Findings
Goncalves et al [26] North America	Quasi-experimental design To investigate the relationship between "Get to Know Me" posters as an effective patient-centered intervention that could enhance the self-perception of nurse caring behaviors while caring for the older adult.	Nurse (n=75) Health care centers 2-group Non equivalent Control (n=32) Experimental (n=43)	Swanson	<ul style="list-style-type: none"> •CACG •"Get to know me poster: Poster" to communicate to others points that are essential to the patient 	<ul style="list-style-type: none"> •Significant increases in nurse's perception of caring behaviors between the two groups. The experimental group had significantly higher caring scores than did the control group on the total CACG scale (t = 2.57, p =.01, and d =0.59) and on 3 of the 5 subscale scores: maintaining belief (t =2.86, p =.005, and d = 0.66), being with (t =2.19, p =.03, and d = 0.50), and doing for (t =2.15, p =.04, and d =0.49).
O'Reilly & Cara [12] Canada	Phenomenological To explore nurse working in a rehabilitation context, the meaning of the experience of "being with" the cared person	Nurses (n=17) Health care centers	"relational Caring inquiry" Cara	<ul style="list-style-type: none"> •Interviews 	<p>The humanistic approach affected all spheres (body, mind and soul) That type of approach ensured well-being and physical, psychic and psychosocial security The caring attitude also led to a transformative process on nurses, with a greater satisfaction, an increased retention at work and a finding a sense</p>
St Germain et al [29] Canada	Phenomenological and spiritual existential approach To understand how caring is approached by nurses and can contribute to patient safety.	Nurse (n=20) Health care centers	Watson	<ul style="list-style-type: none"> •Semi-structured interview 	<p>The humanistic approach affected all spheres (body, mind and soul) That type of approach ensured well-being and physical, psychic and psychosocial security The caring attitude also led to a transformative process on nurses, with a greater satisfaction, an increased retention at work and a finding a sense</p>

Table 4 : Instruments used in quantitative studies				
Instrument		Dimensions	Structure	Study
Name	Items	Number & Name		
Caring behaviors inventory (CBI)	42	<ol style="list-style-type: none"> 1. assurance of human presence (12 items) 2. professional knowledge and skills (5 items) 3. respectful deference to the others (12 items) 4. positive connectedness (9 items) 5. attentiveness (4 items) 	6 points Likert scale (1= <i>never</i> to 6= <i>always</i>)	Rafii [19]
	24	<ol style="list-style-type: none"> 1. assurance of human presence (8 items) 2. professional knowledge and skills (5 items) 3. respectful deference to the others (6 items) 4. positive connectedness (5 items) 	6 points Likert scale (1= <i>never</i> to 6= <i>always</i>)	Palese [21] Keeley [18] Papastavrou [22]
	28- Elders	<ol style="list-style-type: none"> 1. meet individual needs 2. professional knowledge and skills 3. show respect 4. respect autonomy 5. support religious and spiritual needs 	3 points Likert scale (1= <i>never</i> 3= <i>always</i> or 1= <i>rarely</i> to 3= <i>often</i>)	Melchiorre Dey [20] Sossong [23]
Caring Nurse-Patient-Interaction scale (CNPI)	70	<ol style="list-style-type: none"> 1. humanism (6 items) 2. hope (7 items) 3. sensibility (6 items) 4. helping relationship (7 items) 5. expression of emotions (6 items) 6. problem solving (6 items) 7. teaching (9 items) 8. environment (7 items) 9. needs (10 items) 10. spirituality (6 items) 	<p>Likert format scale (5 points) (1=<i>not at all</i> or <i>almost never</i> or <i>very unsatisfied</i> to <i>extremely</i> or <i>almost always</i> or <i>very satisfied</i>)</p> <p>In relation with the 10 Watson's carative factors</p>	Pajnkihar [24]
Caring Factors Survey (CFS)	20	<ol style="list-style-type: none"> 1. caring and loving consciousness 2. whole person 3. unity of mind-body-spirit 		Persky [25] level of education

Caring Assessment of Care Givers (CACG)	25	<ol style="list-style-type: none"> 1. knowing 2. being with 3. maintaining belief 4. doing for 5. enabling 		Goncalves [26]
Patient Satisfaction Scale (PSS)	10* 11	<ol style="list-style-type: none"> 1. technical scientific care needs (3 items) 2. information care needs (5 items) 3. information support care needs (3 items) 	Likert format scale (4 points) * only 8 items were uses	Melchiorre Dey [20] Palese [21]
Patient Satisfaction Instrument (PSI)	25	<ol style="list-style-type: none"> 1. technical-professional care (7 items) 2. trust (11 items) 3. patient education (7 items) 	5 points Likert scale (1= <i>strongly disagree</i> , 5= <i>strongly agree</i>)	Rafii [19]
Hospital Consumer Assessment of Healthcare Providers and System (HCAHPS)	9	<p>How often did nurses</p> <ol style="list-style-type: none"> 1. treat you with courtesy and respect? 2. listen carefully to you? 3. explain things in a way you understood? 4. After pressing the call button, how often did you get help as soon as you wanted it? 5. Did you receive help getting to the bathroom or using the bedpan as soon as you wanted? <p>How often</p> <ol style="list-style-type: none"> 6. was your pain well controlled? 7. did hospital staff do everything to help with pain? <p>Before giving you any new medicine, how often did hospital staff</p> <ol style="list-style-type: none"> 8. tell you what the medicine was for? 9. describe possible side effects in a way you understood? 	Likert format scale (4 points) OR “yes” and “no”	Keeley [18]
Hospital Consumer Assessment of Healthcare	3+1	<p>During this hospital stay, how often did nurses</p> <ol style="list-style-type: none"> 1. treat you with courtesy and respect? 	Likert format scale (4 points)	Pajnkihar [24]

Providers and System (HCAHPS)		<ol style="list-style-type: none"> 2. listen carefully to you? 3. explain things in a way you could understand? <p>“Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?”</p>		
Katz Activities Daily Living (ADL)	6	<ol style="list-style-type: none"> 1. Outcome of treatment and prognosis 2. Outcome of chronically ill on the activities of feeding, bathing, dressing, toileting, continence and transferring 	<p>Scales composed of dichotomous scored items as ADL</p> <p>Likert format scale (6 point); 6 = High (patient independent) 0 = Low (patient very dependent)</p>	Melchiorre Dey [20]
Health Environment Survey (HES)	86	work environment	7 point Likert scale (report degree of agreement or disagreement)	Persky [25]
Level of stress	22	<ol style="list-style-type: none"> 1. family stress 2. economic stress 3. health stress 4. residential stress 	stress = Likert format scale (5 points) ; 22 items	An [27]
cortisol level	no		Cortisol = saliva tube	An [27]
coping strategies	22			An [27]