



# Nurses and patients perceptions of caring behaviours: Quantitative systematic review of comparative studies

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**Nurses and patients perceptions of caring behaviours:  
Quantitative systematic review of comparative studies**

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Dear Editor,

Firstly, we would like to express our sincere thanks to you and the reviewers for their constructive comments on our paper.

We have made all the necessary adjustments in the paper in order to fully address their suggestions as follows:

1. The abstract was re-written based on the reviewer’s comments as follows:

**Aim:** This paper is a report of a systematic review conducted to test the hypothesis that nurses and patients perceive the concept of caring in nursing differently.

**Background:** Caring is viewed as the central focus of nursing. However, despite its fundamental place in clinical practice, researchers and scholars have failed in reaching a common definition. This has led to eliciting for nebulous interpretations of the concept often leading to perplexity and opposing views between patients and nurses.

**Data sources:** Extensive search was conducted using MEDLINE, CINAHL and EMBASE with no publishing time limit and the keywords ‘care’, ‘caring’, ‘nurse’, ‘nursing’, ‘behavio(u)rs’, ‘patient’, ‘perception’, ‘quantitative’, ‘comparative’.

**Review Methods:** This quantitative systematic review of comparative studies followed the guidance of the Centre for Review and Dissemination. A 7-item ‘yes’ or ‘no’ checklist was developed and used for appraising the quality status of the selected literature. Narrative summary technique was used to report outcomes.

**Results:** Evidence of incongruence of perceptions between patients and nurses is mainly supported by the literature. Few studies, however, report aspects of congruence.

**Conclusion:** There is considerable evidence of the assertion that there is no congruence of perceptions between patients and nurses as regards which behaviours are considered caring, and intended caring is not always perceived as such by the patient. Further research is needed

however, to generate more knowledge on the relationship between caring behaviours, patient outcomes and health or nursing costs.

2. The key words included were changed to match the Journal's guidelines.

These key words were included: behavio(u)rs, caring, literature review, nurse, patient, perception, quantitative systematic review

3. The paper was proof read and corrected by the Editage.

4. A web-file was created to include the "characteristics of the reviewed studies"

5. Under the review "design" heading, the following sentence was included: "For this quantitative comparative review, a narrative summary approach was adopted for reporting the findings" .

6. A web-file was created to include Table 1 - Quality Appraisal

7. An additional web-file was included to list the excluded studies

8. The title was changed according to the reviewers' comments as follows:

*Nurses and patients perceptions of caring behaviours: Quantitative systematic review of comparative studies*

9. The revised paper's word count is 4475.

The Authors

**Abstract**

**Aim:** This paper is a report of a systematic review conducted to test the hypothesis that nurses and patients perceive the concept of caring in nursing differently.

**Background:** Caring is viewed as the central focus of nursing. However, despite its fundamental place in clinical practice, researchers and scholars have failed in reaching a common definition. This has led to eliciting for nebulous interpretations of the concept often leading to perplexity and opposing views between patients and nurses.

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**Key words:** behavio(u)rs, caring, literature review, nurse, patient, perception, quantitative systematic review

## **Summary Statement**

### **What is already known about this topic?**

- The concept of caring is often used in the nursing literature as a core attribute, but it remains elusive, ambiguous, and not clearly defined.

### **What this paper adds**

- This paper provides an understanding of the perceptions of nurses and patients about nurses' caring behaviours and contributes to empirical evidence on the area of caring.
- There is a sufficient amount of evidence that the perceptions of nurses and patients regarding which behaviours convey caring, do not coincide.

### **Implications for practice and/or policy**

- Information given by this paper may be useful in planning educational programmes for students and practicing nurses.
- Further research is needed to provide evidence of improved outcomes in patients as a result of caring.

## **Introduction**

Caring is considered in the literature as the central focus of nursing. It has been considered as the 'art' of nursing which is conveyed as the exercise of a human skill, the skill of caring (Clifford 1995, Jasmine 2009). In the current global climate in nursing (and health care in general), the concept of 'caring' needs to be re-contextualized in order to reflect current developments and changes in the way nursing is practiced by nurses and perceived by patients. The emphasis on intervention outcomes in health care creates a need to develop a clear understanding of which nursing behaviours convey caring, to explain patient outcomes from nursing practice, and to predict patient well-being and health.

Caring presents itself as a nebulous concept in nursing, one that has triggered over the years intense and constant efforts to capture its meaning and particularly its meaning as it is manifested in the nursing profession (Sherwood 1997, Smith 1999, Boykin & Schoenhofer 2001, Brilowski & Wendler 2005, Finfgeld-Connett 2008). Although a plethora of theoretical approaches in the nursing literature attempt to define and analyze caring, this concept remains a largely unknown and covert component of professional nursing practice (Leininger 1981, Watson 1988, Botoroff 1991). Empirical evidence has revealed

incongruence between patients' and nurses' perceptions on the importance of nursing behaviours that convey caring; however, in the changing world of health care, it is important that nurses are able to define the parameters of their role and to ensure that such definitions are one with the views of the recipients of care.

There is still scarcity of literature and systematic evidence about how caring interventions can enhance patients' outcomes and help them to deal with the stress of illness more effectively (Mayer 1987, Cohen et al. 2000). However, there is a growing body of literature (Johansson et al. 2005, Muller-Staub et al. 2006, Suhonen et al. 2007, Suhonen et al. 2008) that explores how various nursing interventions, such as nursing assessment and patient education, can be beneficial to the patient. Previous reviews have described the concepts related to caring interventions and their efficacy on select patient outcomes, such as patient satisfaction and well-being (Wolf et al. 2003, Larrabee et al. 2004, Green & Davis 2005, Wu et al. 2006, Raffii et al. 2008).

**The Review**

**Aim**

To test the hypothesis that nurses and patients perceive the concept of caring in nursing differently, by identifying the best available quantitative literature investigating nurse caring perceptions from the perspective of clients and nurses in a variety of settings. More specifically, this review aims to:

- Examine congruence between patients' and nurses' perceptions of caring behaviours.
- Identify areas of agreement and disagreement between these perceptions.

**Design**

For this quantitative comparative review, a narrative summary approach was adopted for reporting the findings. The methodology for the searching process followed the guidance of the Centre for Reviews and Dissemination for undertaking reviews (CRD 2009). The pre-specified protocol included description of the research question, the review method, and the plan of how the data would be extracted and compiled. It was anticipated that such an approach would minimize the likelihood that the results or the expectations of the reviewing team would influence study inclusion or synthesis (Garg et al. 2008).

**Search methods**

MEDLINE, CINAHL, and EMBASE were thoroughly searched between March and May 2009, in order to locate the appropriate articles. Searching did not have any publishing time limit. Relevant studies were identified by using certain key words in different combinations. The same search strategy was adopted for each database. Search terms used were: care, caring, nurse, nursing, behavio(u)rs, patient, perception, quantitative, and comparative.

#### *Type of studies*

Quantitative research studies, comparing both patients' and nurses' perceptions, published in scientific journals, which focussed on nurse-patient interaction and patient outcome in a variety of health care settings were included in the review. The authors do acknowledge the existence of a plethora of studies using the qualitative approach (Sherwood 1997, Patistea 1999, Fingfeld-Connett 2008) but they were out of the scope of this review.

#### *Inclusion criteria*

These criteria included: Adult participants (18+ years of age), hospital or institutional settings, nurses, students and/or patients populations, quantitative research design, English language, and issues relevant to the study.

### **Search outcome**

#### *Phase one*

Literature search was carried out by two members of the research team (E.P., G.E.) to ensure that all relevant articles would be located. Searching produced a total of 262 articles. All went through a title screening by the same two members of the research team. Titles that both researchers agreed were irrelevant to the aim of this article were excluded. All other articles (98) that seemed relevant to the topic or for those that no consensus between the two researchers was reached were forwarded to the next phase. Duplicates were also considered.

#### *Phase two*

An evaluation of all abstracts of those articles that were selected at the previous phase followed. All abstracts were read and checked if they met the inclusion criteria. As previously, all studies that were agreed by the same two members of the team that met the criteria set were forwarded to the next phase. If no consensus was reached for a specific article, then this was also forwarded into the next phase. All other studies (47) were excluded.

#### *Phase three*



In the third and final phase of the search process, a total of 51 articles were read and compared to the inclusion criteria that were set. Additional hand searching of the list of references of all 51 articles did not produce any additional information. A final number of 34 articles were decided to be quality appraised.

**Quality appraisal**

All 34 articles were carefully read and evaluated using a checklist designed by the authors adapted from existing literature (Bowling 1997, CRD 2009), and based on the requirements of the current study. Criteria used for considering a study methodologically sound are listed in Table 1. Every member of the research team had to respond with YES or NO, based on his/her judgement whether the appraised articles fulfilled each criterion (see supporting Table 1). For the studies that did not fulfil the inclusion criteria and were excluded from the review, please see supporting Table 2.

Following the quality appraisal process, a total of 11 articles were excluded (due to insufficient quality status) and a final number of 23 articles were used in this systematic literature review. To ensure that not a single article was mistakenly excluded, all full text excluded articles were read for a second time and reevaluated. None of these were found to be appropriate for the purposes of this study. Regarding the characteristics of the reviewed studies, see supporting information file 1. The process of identifying and including references for the systematic review is presented in figure 1.

*Insert figure 1*

**Data abstraction and synthesis**

Findings related to caring behaviours were extracted from the quality appraised research publications (Table 2). Extracted data included author(s) and date of publication, research hypothesis and aim(s) of the study, research instrument, used population and sample size, and findings (total scores of responses in order to compare perception). Data were extracted independently by two members of the research team (G.E., E.P.). Any disagreements were discussed and either resolved or the third member of the team (A.C.) offered an opinion and then decision was made. Synthesis of the extracted data was then performed following a narrative approach.

*Insert table 2*

**Results**

*Settings*

Most studies were conducted in oncology units and others in rehabilitation centres (Keane et al. 1987) or long-term care settings (Smith & Sullivan 1997), acute care units (Ekstrom 1999), psychiatric units (vonEssen & Sjöden 1993), medical-surgical units (Hegedus 1999), medical, surgical, and psychiatric units (vonEssen et al. 1994).

### *Instruments*

It is interesting to note that in the early stages of this kind of research in the area of caring, data had been collected exclusively through the Q-methodology and the Care-Q instrument developed by Larson (1984), and this approach continued to influence research for many years. In this review, 18 out of the 23 studies used the Q-methodology or a modification and the rest used other instruments like the Caring Behaviors Inventory (CBI) (Moyle et al. 2005), the Caring Behavior Assessment (CBA) (O'Connell & Landers 2008) and the Caring Dimensions Inventory (CDI) (McCance et al. 2008). One study used the NCQ and PCQ (Nurse and Patient Caring Questionnaire) that consists of two parts which differ on the instructions, the first part asking nurses to state their preference regarding the importance of caring items, and the second to report on caring work actually performed (Ekstrom 1999). However, studies exploring the views of nurses separately of those of patients used a variety of caring instruments although there is a slight preference for using the Care-Q. There is also a tendency to use caring instruments in combination with other measures like patient anxiety and depression (Larsson et al. 1998, Widmark-Petersson et al. 2000), patient health and quality of life (Widmark-Petersson et al. 2000), or pain scales (Chang et al. 2005).

The majority of the studies examined the most and least important nurse caring behaviours, whether patients and nurses differ in their ranking of those behaviours and if a significant relationship between nurses' and patients' perceptions of nurse caring behaviours exists. One study explored whether nurses' and patients' gender has any effect on the importance of caring as well as on the presence of caring (Ekstrom 1999), whereas other investigators examined the association within patient-nurses dyads regarding their perceptions of caring behaviours, anxiety, and depression (vonEssen et al. 1994, Widmark-Peterson et al. 2000).

### *Differences in the dimensions of caring*

Significant differences were found between patients and nurses in their perception of caring and caring behaviours in many of the reviewed studies. The Q methodology revealed marked differences between nurses and patients in the ranking of how important different nurse caring behaviours are considered to be. Patients appear to value the instrumental, technical caring skills more than nurses do, and perceive behaviours that demonstrate

competency on how to perform nursing activities ('know how') as more important. On the other hand, nurses perceive their psychological skills and expressive or affective caring behaviour as more important than patients do, leading to the conclusion that nurses may misperceive the necessity of the emotional aspect of caring in comparison with patient judgments. These results, repeatedly reported in the research literature, indicate that nursing staff may not accurately assess patient perceptions of caring and that patient care is not congruent to the patients' preferences, expectations, or individual needs.

The Care-Q that is the most frequently used instrument ranks caring behaviours in six categories as follows: Accessible, Explains and Facilitates, Comforts, Anticipates, Trusting Relationship, and Monitors and Follows Through. Other instruments reviewed describe similar subscales, for example, the CBI (Assurance of Human Presence, Professional Knowledge and Skill, Respectful Deference to Others, and Positive Connectness/Attentiveness to Other's Experience) and the CBA (Humanism, Helping/Trusting, Expression of Feelings, Teaching/Learning, Supportive and Protective Environment, Human Needs Assistance and Existential, Phenomenological, Spiritual forces) or less similar subscales, for example, the CDI (Psychosocial, Technical, Professional, Inappropriate, and Unnecessary Nursing Activities). The majority of these studies reported significantly different nurse-patient perceptions of caring, something that is demonstrated both on analyses of the subscales as well as on the individual items.

The mean values for Care-Q demonstrated that nurses assign a higher importance to 'comfort, anticipates, and trusting relationships' as significantly more important than the patients (Larson 1987, Mayer 1987, vonEssen & Sjöden 1991, vonEssen & Sjöden 1993, Larsson et al. 1998, Tuckett et al. 2009) and they consistently rank the 'Comfort' dimension as their first priority. Two studies have examined the perceptions as well as the occurrence of caring behaviours (vonEssen & Sjöden 1995, Ekstrom 1999) assuming that perceptions may not be accurate predictors of what nurses actually do, but no significant association was demonstrated for nurses. Low correlations between patients mean values on subscale occurrence and importance was found in 'Explains and Facilitates', rated to be of high importance but of low frequency, whereas 'Comforts' was considered by surgical patients as the least important but relatively frequent (vonEssen & Sjöden 1995).

In several Care-Q studies, patients have considered the subscale 'Monitors and Follows Through' to be of high importance (Larson 1987, Mayer 1987, Keane et al. 1987, vonEssen & Sjöden 1991, 1994, Widmark-Peterson et al. 1998, Tucket et al. 2009). This ranking differs from dyadic studies in which this caring dimension is ranked lower by both nurse

and patient group (vonEssen & Sjoden 1991, vonEssen et al. 1994, Widmark-Petersson et al. 2000). The 'Explains and Facilitates' category is ranked high by patients and low by nurses in some studies (vonEssen & Sjöden 1991, 1993, 1995, Widmark-Peterson et al. 2000), meaning that patients rate the information aspect as more important than nurses do and nurses stress the emotional aspect more than the patients. These authors have challenged the nurse communicative behaviours that may result in superficial assessment skills and planning care on own assumptions.

Similar disparities are observed in the rating of items of the Care-Q and different perceptions were found in many of the items although both nurses and patients were quite diversified in selecting the most important items in terms of making them feel cared for. Patients chose more instrumental behaviours like 'knows how to give shots, IVs, and manage equipment' while nurses choose more expressive behaviours like the item 'listens to the patient' (Larson 1987, Mayer 1987, vonEssen & Sjöden 1991, Scharf & Caley 1991, Gooding et al. 1993, O'Connell & Landers 2008). Analogous results were found with the use of other instruments with the exception of one that found no significant differences between the patient and nurses groups (Moyle et al. 2005). However, the validity of this later study is compromised by the very small sample (16 nurses and 31 residents) and there are concerns regarding patient samples drawn from old peoples' homes, mainly because of the difficulties in engaging in a Q sort procedure, and the high dependency of patients on nursing care and the feeling of obligation towards the nursing staff.

#### *Patients with different kind of health problems*

Cancer patients are the most frequently studied patient group in the area of caring and the results to whether the cancer trajectory influences the perceptions of both patients and nurses are contradictory. It is assumed that the cancer patients and nurses may establish a long-term care relationship so they may develop more consistent perceptions regarding the importance of caring behaviours. It is also possible that because of the symptoms like pain and suffering, patients might need more frequent contact, monitoring, and follow-up from nurses than patients with other diseases. This assumption (Chang et al. 2005) would generate expectations that patients with cancer and oncology nurses do not differ in their perceptions of caring behaviours. However, this assertion was partially supported, especially in studies that, opposed to others, paired staff with patients on the same unit. Similarly, studies conducted in specialties of hematological malignancies (Widmark-Petersson et al. 2000) reported a higher ranking of the 'Monitors and Follows Through'

category among nurses and congruence with the patients' ratings, in contrast to studies in which nurses gave a lower ranking to this specific subscale (vonEssen & Sjöden 1991, vonEssen et al. 1994) leading to the hypothesis that in areas of very advanced treatments, nurses also perceive their technical role as more important.

In contrast to the finding that patients rank physical care higher than nurses do (vonEssen & Sjöden 1993), in the study of psychiatric inpatients and staff, it was found that patients with mental health problems consider the cognitive aspect of caring as the most important aspect of care. A comparison of patients with somatic problems in the same study showed that somatic and psychiatric patients differ in their perception of caring behaviours, since the task-oriented aspect of caring was rated as more important from patients hospitalized in medical and surgical settings.

Another area of differentiation is the critical care settings, where a low ranking was given to caring subscales like a trusting relationship, expression of positive feelings, and existential feelings (O'Connell & Landers 2008), suggesting that interpersonal nurse-patient relationships may not be considered very important in this area of practice.

Interesting differences and similarities are also reported by Eksrom (1999) who found that patients' expectations regarding caring behaviours are higher when the nurse is a female, and lower when the nurse is a male, leading to the assumption that gender stereotypes may affect perception of behaviour in others.

*Caring behaviours and patient outcomes*

Nursing outcomes describe changes in a patient's state of health as a result of nursing interventions like changes in functional status, coping, or self-care (Muller-Staub et al. 2006). There is scarcity of research that relates nursing behaviours to patient outcomes, although studies are proliferating concerning the benefits of certain interventions like nursing assessment and diagnosis (Muller-Staub et al. 2006), patient education (Johansson et al. 2005), preventative interventions or caring approaches like individualized care (Suhonen et al. 2007). More studies exploring caring behaviours are focused on outcomes in terms of patient satisfaction (Wolf et al. 1998, Wolf et al. 2003, Larrabee et al. 2004, Green & Davis 2005, Wu et al. 2006, Raffii et al. 2008) but they were not within the scope of this research, in spite of the interesting correlations found between caring behaviours and general satisfaction of patients from caring.

Two studies explored the discrepancies between nurse and patient perceptions of the importance of caring behaviours and patient level of anxiety and depression, assuming that

they have potentially important consequences on the quality of caring (vonEssen et al. 1994, Widmark-Peterson et al. 2000). Neither significant mean differences, nor significant correlations between patients and nurses were found on the hospital anxiety and depression levels and the members of the matched nurse-patient dyads did not agree strongly on the importance of caring behaviours (vonEssen et al. 1994, Widmark-Peterson et al. 2000). The authors support that these results which are contrary to previous findings, suggest that nurses are not sensitive enough to their patients' reported levels of anxiety and depression, do not provide sufficient opportunities for communication, or fail to recognize the patients' emotional state. Patients' and nurses' perceptions about the patients' health quality of life, greatest health-related concern and satisfaction with caring were explored in addition to the patients and nurses perceptions of caring behaviours by Widmark-Peterson et al. (2000). No correlations between nurses' and patients' perceptions of these variables were found indicating that nurses are not aware of what aspects of caring patients consider important in order to feel well-cared for, nor of the individual patients' health, related concerns, or quality of life. In the case of pain, it seems that patients with higher levels of pain receive more supportive nurse caring and patients with the most intense pain rated higher on perceived caring behaviours than others (Wu et al. 2006). A statistically significant correlation of pain and caring behaviours, either positive or negative, was also reported with the use of different instruments (Chang et al. 2005).

## Discussion

### *Limitations*

Research comparing both nurses' and patients' perceptions of caring using the quantitative approach only, was included in this study. Although some evidence suggesting that there is no congruence between nurses and patients perceptions on the concept of caring in nursing has been established, a more synthesised approach should be attempted, including both quantitative and qualitative research studies in order to examine the issue in more depth. The number of the well-designed studies included in this review is quite limited but a less rigid set of design criteria would have undermined the validity of the evidence produced (Johansson et al. 2005). This means that the conclusions drawn are necessarily tentative. Specific inclusion criteria were used in order to demonstrate the current evidence in the field. Had studies dealing with the broader perception of caring or studies with samples either from nurses or patients been included, it would have been feasible to offer more



generalizable information; on the other hand, we would have detracted from the main purpose of this review.

Some studies included in this review used small samples. The authors, although they acknowledge this as a study limitation, have decided to include them in this systematic review in the absence of studies conducted with larger samples. Studies with limited samples were only included if they fulfilled all the other pre-specified criteria of quality status.

*Methodological considerations*

Questions are raised as to how caring is defined and measured. Most studies used operational definitions and behavioural designations to the scientific study of caring, because as it was stated by Wolf et al. (1994), it is through the practice of caring behaviours, including acts, conduct and mannerisms that nurses convey caring and the feeling of being cared for. On the other hand, it has been criticised that the persistence to caring as an elusive and non-measurable concept, has inhibited nursing's scientific development (Paley 2002). Many elusive concepts in other disciplines have been described and measured. Good examples are empathy (Yu & Kirk 2009) or depression for which psychologists have developed strong and reliable instruments to quantify and measure which are used not only as research tools but also as partially diagnostic instruments. Although each research design offers its own contribution to the increase of nurses' understanding on caring, methods that will allow us to describe and quantify nursing's unique contribution to health care and link caring with patients' outcomes, as well as procedures that stand the scientific scrutiny need to be developed further.

*Result of the review*

There is some evidence of the assertion that there is no congruency of perceptions between patients and nurses as regards which behaviours are considered caring; although, in some studies, aspects of congruence have also been reported. The caring model that was extensively used in this review describes two categories of caring interventions that are both expressive and instrumental in nature. Expressive activities include establishing trusting relationships and offering support, whereas instrumental activities include physical action-oriented helping behaviours and cognitively oriented helping behaviours. Patients appear to value the instrumental, technical skills more than nurses do, which means that they may not be open or receptive to the expressive caring behaviours until basic physical needs are met through instrumental activities. On the other hand, the psychological orientation of nurses (Widmark-Petersson et al. 1998) may be explained by the very

1  
2  
3 complex and technical caring environment in which caring may be seen as losing the  
4 affective aspects as well by the fact that they need to deal with the shortages of both nurses  
5 and time as consequences of a tight economy. However, none of the studies reviewed  
6 described other environmental parameters or factors surrounding caring and nurse-patient  
7 interactions that could determine the caring element of nursing. Only a few studies  
8 attempted to explore the correlation between caring behaviours in producing therapeutic  
9 client-caring outcomes which would explain the nurses' unique contribution to caring.

10  
11 A considerable amount of research on caring in this review has emerged from  
12 investigations on oncology units, and is limited to the secondary level of prevention where  
13 both patient and nurse caring perceptions might be determined due to organizational and  
14 other influences. The increasing complexity of caring and patient needs, reduced hospital  
15 lengths of stay, and reduced ratio of nurses to patients may influence nurses to take a less  
16 holistic approach to nurse caring (Larrabee et al. 2004). In addition, it may lead patients to  
17 seek a more particularistic approach. On the other hand, the patients' emphasis on the  
18 technical aspect of caring, such as proficiency in giving medications, managing intravenous  
19 fluids, 'Monitors and Follows Through' are the needs of highly vulnerable, dependent  
20 persons who have had to place [their hopes](#) in the hands of somebody else; in this case, in  
21 the hands of a nurse (Rosenthal 1992).

### 22 23 24 *Applicability, theoretical and practical implications of the findings*

25  
26 The results of this review make a contribution to the debate concerning the definition of  
27 caring from the perspective of specific behaviours that convey caring and fulfil patients'  
28 expectations of nurse caring. There is a need to promote a patient-focused philosophy  
29 (Suhonen et al. 2008) and develop a common understanding of caring to improve caregiver-  
30 patient interaction, to plan, implement, and evaluate caring that is not based on  
31 assumptions. In order to plan care that responds to every patient's individualized situation  
32 and needs, nurses have to elicit and use individual patients' preferences more systematically  
33 in care planning.

34  
35 Further research is needed to generate more knowledge on the relationship between caring  
36 behaviours, patient outcomes and health or nursing costs, as well as significant elements of  
37 the caring environment. There is a growing body of literature suggesting that congruency of  
38 perceptions and goals is important for the patients profiting from caring, and nurse-patient  
39 agreement may be the key factor in patient satisfaction and consequently patient's recovery,  
40 comfort, health behaviours, and compliance. An implication to hospital leaders is to



monitor patient-perceived nurse caring because of its demonstrated relationship with patient satisfaction with nursing care, the key predictor of patient satisfaction with hospital care (Larrabee et al. 2004). Health care organizations need to take into account the patients' perceptions on caring and introduce restructuring of hospital systems aiming at reducing labour costs through work redesign. Information given in this paper may be also useful in planning educational programmes for students and practicing nurses, and contributes empirical evidence towards the body of knowledge related to caring behaviours.

## Conclusion

This review demonstrates that nurses do not always accurately assess patient perceptions on the importance of various dimensions of caring which means that they may plan and implement caring for the patient based on their own assumptions. Such information is valuable because the professional responsibility of nurses is centred on providing high quality nursing interventions leading to positive outcomes (Suhonen et al. 2008). This requires the development of knowledge, skills, sound judgement, and effective nurse-patient communication in meeting the patient's expectations of which behaviours express caring. It is important to take into account the patients' perspective to link nursing interventions with patient outcomes.

Despite the great changes in health care delivery and in nursing education since Larson's original work, the disparity between nurse and patient perceptions of caring continues and patients' persistent support of instrumental activities reflect a wide emphasis on intrusive, technological competency as extremely important to them. Perhaps patients have been socialized by the media to expect the nurses' job to centre around the technical aspects of caring (Gardner 1998) or perhaps they do not appreciate the other dimensions of caring before their basic physical needs are met.

A body of knowledge has been identified which can be used to develop further research using a variety of methodologies. Advances in the caring measurement in nursing research will assist the development of interventions to improve the quality of nurse caring and training programmes aiming to promote this crucial aspect of nursing.

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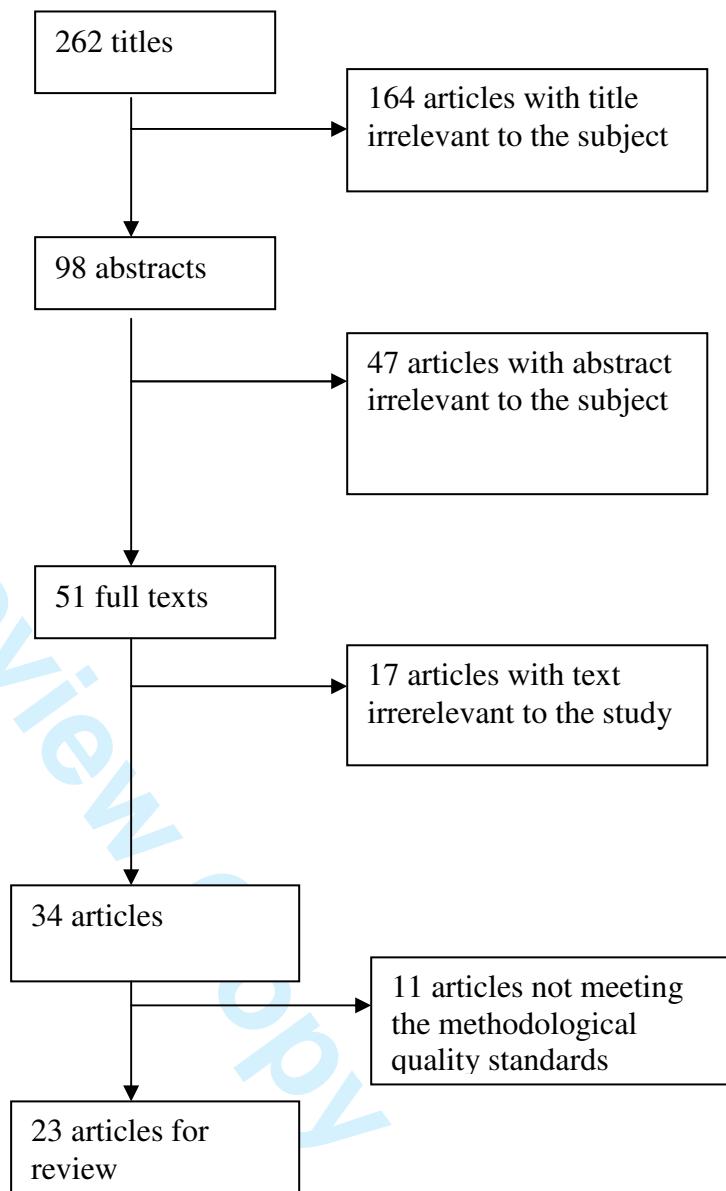


Figure 1: Flow diagram of the process of identifying and including references for the systematic review

Authors/ date	Research hypothesis/aims	Research instrument	Sample/sampling method	Findings
Larson 1987	To examine whether patients and nurses differ in their ranking of nurse caring behaviors	Care - Q	Cancer nurses (57) Patients (57) Convenience	Patients valued significantly more than nurses did the items categorized under the Monitors and Follows Through Subscale ( $p<0.0001$ ). Nurses valued significantly more than patients did the items categorized under the Trusting relationships subscale ( $p<0.0177$ ). No significant differences between the two groups were found on the Accessible, Explains and Facilitates, and Anticipates subscales
Mayer 1987	1) Is there a significant relationship between oncology nurses and cancer patients perceptions of nurse caring behaviors 2) Do the findings of this study corroborate Larson's findings (this is a replication of Larson's study)	Care - Q	28 oncology nurses 54 cancer patients Convenience	Positive significant correlation between patients and nurses evaluation on important behaviours ( $p<0.01$ ). Significant agreement between nurses and patients choices for the three of the six major categories of caring behaviors: explains and facilitates ( $r=.81$ , $p=.0499$ ), Trusting relationships ( $p=0.0174$ ) and Monitors and Follows Through ( $p=0.0427$ ). The correlations for the other three categories were not significant. The differences between patient and nurse ranked behaviors showed only "is cheerful" as statistically significant ( $p\leq 0.5$ ) with patients ranking this behavior as more important.
Keane et al.1987	To identify perceptions of patients and nurses of the most and least important nurse caring behaviors.	Care - Q	26 rehabilitation patients 26 nurses Convenience	Spearman's correlation for patients' and nurses' group was 0.94 indicating high agreement for both groups in priority ranking of caring behaviors. The total mean score for patients ranged from 3.038 to 5.385 and for nurses 2.92 to 5.269.
Von Essen & Sjoden 1991	To identify patient and nursing staff perceptions of the most and least important nurse caring behaviors	Care – Q Questionnaire of the Care – Q	81 patients (cancer, general surgical, orthopedic surgical)  105 nursing staff (nurses, nurse aides, nurse assistants)	Significant differences among patient and nurses on five out of the six scales of the Care-Q (Patients assigned higher values to the Explains and Facilitates, $p=0.004$ and Monitors and Follows through $p=0.0046$ and Nurses scored higher on the Comforts subscale, $p=0.0001$ ). In the questionnaire form, Nurses gave higher values to the Accessible, $p=0.0013$ , Comforts, $p=0.0001$ , Anticipates, $p=0.0001$ , and Monitors and Follows through $p=0.0002$



			Convenience	A t-test for all the items showed significant differences for 14 out of the 50 items in the Care Q between patients and nurses. On the questionnaire form, nurses gave significantly higher values than patients to 30 items.
Rosenthal 1992	To examine the relation of patient-perceived to nurse-perceived caring behavior	Care - Q	30 CC pts 30 CC nurses Convenience	The ranking of the patients' perceptions of the top 10 most important behaviors is different from that reported by nurse. Nurses and patient perceptions are divergent. Patients support the more technical aspect of care.
Scharf & Caley 1993	To identify how patients, nurses and physicians rank the importance of different nurse behaviors related to caring	Care - Q	80 nurses 50 patients 32 physicians  Convenience	Analysis of the mean scores for each sample group revealed 2 behaviors among the top 5 items of all the three subgroups. These are "Knows when to call doctor" and "gives good physical care". Physicians and nurses choose "Listens to patient" among their top 5 but patients did not.
VonEssen & Sjoden 1993	Perceived importance of caring behaviors to Swedish psychiatric inpatients and staff, with comparisons to somatically-ill samples	Care - Q	61 psychiatric inpatients 63 staff Convenience	Significant nurse-patient differences were found in 13 of the 50 items (3 items $p<0.001$ , 3 items $p<0.005$ , 5 items $p<0.01$ and 2 items $p<0.05$ ). Patients rated the cognitive aspect of care as more important, while nurses stress the emotional component. Both groups regard a trusting relationship and the emotional aspect of care as highly important in order to make patients feel cared for.
Gooding et al. 1993	1) How do oncology nurses and patients rank caring behaviors in order of importance 2) What is the relationship between these rankings 3) Are there differences between the subscales between nurses and patients	Care - Q	42 oncology patients  46 oncology nurses  Convenience	Two-tailed t-tests revealed that there were significant differences between the patients and nurses with respect to the ranking of the subscales of clinical caring ( $p<0.001$ ), Disposition of Nurse Caring ( $p<0.001$ ) and Continuity of Nurse Caring ( $p<0.001$ ).
Von Essen et al. 1994	To determine cancer patient and	Care - Q	19 dyads patients-	T-tests yielded significant difference between mean value on instrument's subscales «explains and facilitates»



	staff (nurses) perceptions of the importance of caring behaviors (and patients levels of anxiety and depression)	HADS	nurses (10 nurses + 9 assistant nurses)  Convenience	(patients>staff, $p<0.05$ ) and «accessible» (staff>patient, $p<0.01$ ). A significant negative correlation was found for “comfort” ( $p<0.05$ ) but no between-group difference Patient and nurses mean values differed significantly in 10 of the 50 items (t-test, six items $p<0.01$ , four items $p<0.05$ ). Significant correlations were found for three items ( $p<0.05$ ). Generally, mean values demonstrated disparities for 2 of the 6 subscales and 10 of the 50 items and negative correlations indicating opposing views within the nurse-patient dyads.
Von Essen & Sjoden 1995	To investigate the perceptions of in-patient and staff (nurse) on the occurrence and importance of caring behaviours and the occurrence that these behaviours occur	Care – Q Questionnaire of the Care – Q	In-patients receiving psychiatric (61), medical (47) and surgical care (40) Nursing staff in psychiatric (63), medical (43) and surgical care (27) Nurse aides, nurse assistants and nurse students included in the above nursing samples  Convenience	Two-way ANOVAS yielded differences (occurrence) in the “comfort” “accessible” “anticipates” and “trusting relationship” subscales, where nurses considered caring behaviors belonging to these subscales to have been more frequent than patients did. Significant patient group interactions observed for “comfort” ( $p<0.05$ ) with higher values from staff than from patients in psychiatric and medical care but not in surgical care. The care-Q (importance subscale) showed significant nurse-patient differences
Widmark-Peterson et al. 1996	To investigate a) whether cancer patients and staff have different cognitive representations of the concept caring and clinical care b) whether 2 different wordings of the response categories used by patients and staff to rank the perceived importance of 50	Care - Q	72 cancer patients 63 staff  Convenience	On the subscales values significant differences were found in accessibility (patients scored lower than staff, $p<0.05$ ), comfort (nurses gave higher value than patients, $p<0.01$ ) and trusting relationship (nurses gave higher means than patients, $p<0.01$ ). In the rank ordering of the subscales, differences were found in both forced and free response format questions, where nurses perceive expressive affective behaviors as most important, whereas the most important behaviors as perceived by patients

	caring behaviors in relation to these concepts would produce different results			are those dealing with information and competent clinical expertise.
Smith & Sullivan 1997	To identify caring behaviors perceived as more important by patients and nurses in a long term care settings	Care - Q	14 patients and 15 registered nurses Convenience	Statistically significant differences in mean scores were identified in 5 out of the 50 behaviours ( $p<0.05$ ). Patients ranked higher than nurses two behaviours having to do with information, communication and self-determination. Nurses ranked higher in behaviours involving listening, touching and being available.
Larsson et al. 1998	Are there differences between patient and staff perceptions of the importance of caring behaviors	Care - Q	53 patients with cancer diagnosis that have spent at least 3 days in hospital and 53 nurses. Patient-staff dyads (patient randomly paired with a nurse). Convenience	Significant negative patient-nurse correlations were found for 2 behaviors in the dimension "Explains and Facilitates" ( $p\leq 0.05$ ) and trusting relationship ( $p=0.01$ )
Widmark_Peterson et al. 1998	Do cancer patients and staff have different cognitive representations of the concepts caring and clinical care	3 versions of the Care - Q (CARE-P, CARE-S and CARE SP)	32 cancer patients 30 members of staff (nurses, nurse assistants, nurse aides) Convenience	In the CARE-P versus CARE-S, patients rated the importance of "Explains and Facilitates" significantly higher than nurses ( $p<0.05$ ). In the (CARE-P, CARE-SP, Patients regarded "Explains and Facilitates" ( $p<0.05$ ) and «Accessible» ( $p<0.05$ ) as significantly more important than nurses did. Nurses views of patients perceptions (CARE SP) resembled their own ratings more than those of actual patient ratings.
Gartner et al. 1998	To compare nurse and patients perceptions of important caring behaviors	Care - Q	35 nurses (RNs, ENs) 30 patients Convenience	Statistically significant differences between patients' and nurses' perceptions were found in 14 of the 50 statements ( $p<0.05$ ) using a t test for differences in means for independent samples. The mean value for the item "listens to the patient "

				was for nurses 5.7 (rank 1) and for patients 4.9 (rank 3) (p=0.001)
Ekstrom 1999	When nurses respond, is there a main effect due to gender of the nurse on the importance of caring and on the presence of caring? The second question is for the patients' response and the effect due to the gender of the nurse.	<u>Importance of caring</u> NCQ PCQ <u>Presence of caring</u> NTOT PTOT	145 nurse-patient dyads, male and female. 5 hospitals, 1 city USA  Convenience	ANOVA results indicated that there is a gender effect of nurse on patients' importance of caring, (p<0.005) with patients scoring lower when the nurse was a male than when the nurse was a female..
Hegedus 1999	The article describes the development of an instrument to examine nurses caring behaviors and the results of the pilot study	NEW	81 people (42 nurses, 39 patients) Convenience	The patients ranked 5 of the items significantly higher than the providers (nurses do not explain, Pa=8.2, Nu=4.7, p<0.003, Nurses do not tell me what to expect, Pa=7.9, Nu=4.1, p<0.0001, Nurses do not individualize care, Pa=8.4, Nu=4.5, p<0.0004, Nurses do not listen to my family, Pa=7.3, Nu=4.4, p<0.0007, Nurses speak in angry tone, Pa=4.6, Nu=2.8, p<0.05). Nurses' rankings were entirely different from that of patients.
Widmark-Petersson et al. 2000	(a) patient and staff perceptions of the importance of caring behaviors, patient health, quality of life, and greatest health-related concern; (b) patient anxiety and depression (Hospital Anxiety and Depression Scale); and © staff views of patient perceptions of the importance of caring behaviors.	3 versions of the Care – Q (CARE-P, CARE-S and CARE SP) HADS Patients health, quality of life	21 matched patient-staff dyads  Convenience	There were no significant correlations between patients (CARE-P) and nurses (CARE-S) perceptions of the importance of the Care-Q subscales or significant associations between patient (CARE-P) perceptions and nurse views of patients' perceptions (CARE-SP). CARE-S and CARE-SP were significantly positively associated with 4 subscales: Accessible (p<0.01), Comforts (p<0.01), Anticipates (p<0.01) and Trusting Relationship p<0.01). Patient levels of anxiety, patients health and quality of life did not correlate with their ratings of the CARE-Q subscales
Chang et al. 2005	To explore differences in perceived importance of nursing	Care – Q Pain Scale	50 patient-nurse dyads	Patients and nurses differed from each other in their ratings in 3 of the 6 subscales in the CARE-Q by t-test. Monitors and

	caring behaviors between patients with cancer pain and oncology nurses and explore the relationship between level of pain intensity and nursing caring behaviors		Convenience	Follows through (patient>nurse, $p<0.05$ ) Comforts (nurse>patient, $p<0.05$ ) and Explains and Facilitates (nurse>patient, $p<0.05$ ). No significant associations were found.
Moyle et al. 2005	1) What are the perception of residents on caring behaviors exhibited by nurses 2) What are the nurses perceptions for their behaviors	CBI	7 RN 19 AN 31 residents  Convenience	CBI total score Patients=215.29 (Mean) CBI total score Nurses=207.62 (Mean) No statistically significant differences were found in the CBI factors between nurses and patients
McCance et al.2008	Main aim: to measure the effectiveness of an instrument (PCNI) to measure patient centered nursing. Administered at 5 points over 2 years Part of the study included the use of CDI to measure the nurses perception of caring and NDI to measure patients perception on caring (CDI and NDI components of PCNI)	CDI NDI	122 Nurses 107 Patients (or relatives where appropriate)  Convenience	12 statements of CDI Nurses considered caring on all five data collection times. "Listening to patients" was scored as the most caring in all occasions ( $M=4.60-4.66$ ). Only 2 statements from the 35 were considered as caring from patients on all 5 data collection periods. Only 6 items common between nurses and patients (but at different points of time). Incongruence between nurses and patients views on caring
O' Connel & Landers 2008	Not clear Aim: to compare nurses and relatives perceptions	CBA	1 hospital 3 units ICU 40 nurses and 30 relatives Convenience	The results demonstrated that there are more similarities than differences between the perceptions of nurses and relatives with 6 of the most important items common to both groups and in the ranking order of the subscales. Both groups placed a higher value on caring behaviors which demonstrate technical competence, altruistic and emotional aspects of caring
Tuckett et al. (2009)	To demonstrate that the free response form of the 50-item care Q is acceptable to nurses and residents in nursing homes.	Care-Q questionnaire form	3 aged care facilities 37 long-term residents 90 nurses	The subscale comfort was rated significantly lower by the patients ( $M=6.3$ ) as related to nurses ( $M=6.8$ ) $p=0.003$ . Patients also rated lower in the subscales Anticipates ( $M=6.2$ ) as related to nurses ( $M=6.4$ ) $p=0.009$ and Trusting relationship

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	To validate the factors		Convenience	(M=6.2) as related to nurses (M=6.5) p=0.049.
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Table 2: Summary of the studies reviewed

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## Studies excluded based on the methodological quality criteria

Author(s)	Reason for exclusion
Greenhalgh et al., 1998	Limited response rate from the nurses
Gardner et al., 2001	Unspecified sample size
Watson et al., 2003	Data from patients and nurses collected in different time period
Larrabee et al., 2004	No pilot study, small nurses' sample compared to patients'
Green & Sheila, 2005	Only one USA region, sample considerations (only 3 nurse practitioners were not Caucasians)
Wu et al., 2006	A methodological study. Data from a previous study
Hulela et al., 2000, 2001	Two parts study. No direct comparison between groups, unclear research question
Johansson et al., 2005	Patients selected by nurses for inclusion in the study (increased bias)
McDermott et al., 1987	No instrument validation, unclear data collection process
Green 2005	Unclear methodology

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- a) the research hypotheses or questions were clearly stated,
- b) the data collection instrument was appropriate to answer the research question
- c) the psychometric properties of the instrument were described and a reliability test for each study was reported
- d) eligibility criteria were used and the sample size was satisfactory for correlation analyses, even when a power analysis was not used or there was no reporting the of the response rate
- e) clear description of the data collection process was described
- f) sound statistical methods for analyzing the data were used
- g) Discussion of the findings was done in relation to their practical and theoretical applications.

Table 1 Criteria for quality appraisal



*Characteristics of the reviewed studies*

All studies had a clear statement of research question(s) and almost all researchers used an operational definition of caring, that is of caring behaviors. The scientific background and explanation of the rationale was reported in all the documents except two (Keane et al. 1987, Smith and Sullivan 1997). Most of the instruments used were based on caring theory and their psychometric properties have been published (Watson 2008). Very few of the reviewed studies have presented validation analyses for their sample and this included mainly a Cronbach's alpha coefficient (Huggins et al. 1993, Wolf et al. 1998, Ekstrom 1999, Chang et al. 2005, O' Connel & Landers 2008, Tucket et al. 2009). Gooding et al. (1993) in an effort to explore further the groupings of the nurse caring behaviors identified five new subscales of the Care-Q, validated them through a review panel and removed 21 items.

A convenience sampling was used in all the papers reviewed and no study has reported a power analysis for the sample size. The number of participants ranged from 14 patients and 15 nurses (Smith & Sullivan 1997) to 145 patient –nurse dyads (Ekstrom 1999) and the type of sampling was convenient in all studies. Only two studies used matched pairing techniques for their samples (Widmark-Petersson et al. 2000 and Chang et al. 2005). Two studies included relatives (McCance et al. 2008, O' Connel & Landers 2008), one study reported a comparison of patients, nurses and doctors (Scharf & Caley 1993) and another used psychiatric and somatically ill patient samples (vonEssen & Sjöden 1993, 1995). Inclusion criteria were only used for the settings, such as medical, surgical or other wards. Eligibility criteria for the participant nurses were not described and most studies used only registered nurses although some researchers included students, nurse assistants and nurse aides working on the ward (vonEssen & Sjöden 1991, 1993, 1995, Widmark-Petersson et al. 1998, 2000, Moyle et al. 2005, Tucket et al. 2009). More detailed eligibility criteria for the patient sample were used in specialized areas like cardio and oncology and included a histological diagnosis of cancer (Larson 1987), patients receiving chemotherapy (Mayer 1987) alertness, freedom of chest pain and physician's consent (Scharf & Caley 1993), experience of pain and pain medication in the last 24 hours (Chang et al. 2005). Some studies excluded patients being senile, mentally or emotionally disturbed or with limited vision and hearing (vonEssen & Sjöden 1993, 1995, Widmark-Peterson et al. 1998, 2000) or fatigue (Widmark-Petersson et al. 2000) whereas others used exclusively elderly patients (Moyle et al. 2005, Tuckett et al. 2009).

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3 All researchers used descriptive statistics such as mean scores, standard deviations,  
4 frequencies, percentages, maximum and minimum scores. Statistical comparisons of  
5 patient and nurses group means were performed by using t-test, whereas Pearson,  
6 Wilcoxon and Spearman rank correlation coefficients were employed for the analysis  
7 of associations and differences between patients and staff. A 3-way ANOVAs and the  
8 Mann-Whitney U-test were used in one study to compare patient and staff subscale  
9 scores, within and between scores (Widmark-Peterson et al. 1998) and 2-way  
10 ANOVAs were used in a study of caring and gender (Ekstrom 1999).

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12 The interpretations of the findings were clearly presented in all the documents  
13 reviewed but generalisability was not supported by any of the studies reviewed  
14 because of the convenient or small samples, lack of homogeneity and arbitration in  
15 the selection criteria.

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17 The twenty three research documents involved 1229 patients and 1390 nurses. Most  
18 of the studies were conducted in the USA (n=11), in Canada (n=1), Australia (n=2)  
19 Taiwan (n=2) and the majority of the European were conducted in Sweden (n=7).  
20 However in the Swedish language, two different concepts that is of “caring” and  
21 “clinical care” are described and patients may have different cognitive representations  
22 of caring, therefore any generalisability to other European cultures should be made  
23 with caution (Widmark-Peterson et al. 1996, Gardner et al. 2001).  
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