



Nursing leadership and quality of care in a hospital setting: mixed methods research

Liderança em enfermagem e qualidade do cuidado em ambiente hospitalar: pesquisa de métodos mistos

José Luís Guedes dos Santos¹, Shara Bianca De Pin¹, Maria Elena Echevarria Guanilo¹, Alexandre Pazetto Balsanelli², Alacoque Lorenzini Erdmann¹, Ratchneewan Ross³

Objective: to examine and describe the relationship between nursing leadership and the quality of care in the hospital environment. **Methods:** this concurrent convergent mixed methods study incorporated cross-sectional correlational design and grounded theory. Data were collected among staff nurses at a hospital. Quantitative data were collected using the Brazilian Nursing Work Index-Revised/Leadership subscale with 105 nurses and analyzed by descriptive and inferential statistics. Qualitative data were collected through intensive interviews with 64 participants and analyzed by Charmaz's method. Subsequently, results from both arms were integrated to generate mixed methods findings. **Results:** better nursing leadership resulted in better quality of care. Qualitative results supported quantitative results and showed that effective nursing leadership yielded quality of care through different processes: collaborating with nursing staff, encouraging patient advocacy, and enhancing care through research. **Conclusion:** through mixed methods, the findings can be generalized with a deeper understanding about the phenomenon. Implications are also discussed.

Descriptors: Nursing Care; Organization and Administration; Leadership; Quality of Health Care; Nursing Administration Research.

Objetivo: examinar e descrever a relação entre liderança em enfermagem e qualidade do cuidado no ambiente hospitalar. **Métodos:** estudo concomitante e convergente de métodos mistos que incorporou um delineamento correlacional transversal e teoria fundamentada. Os dados quantitativos foram coletados por meio da subescala Liderança do *Brazilian Nursing Work Index-Revised*, com 105 enfermeiros de um hospital e analisados por meio de estatística descritiva e inferencial. Os dados qualitativos foram coletados por meio de entrevistas com 64 participantes e analisados pelo método de Charmaz. Posteriormente, os achados foram integrados para gerar os resultados dos métodos mistos. **Resultados:** os resultados qualitativos apoiaram os quantitativos e mostraram que a liderança de enfermagem eficaz gerou qualidade de atendimento por meio de colaboração com a equipe de enfermagem, incentivo à advocacia do paciente e melhoria do atendimento. **Conclusão:** o uso de métodos mistos possibilita uma compreensão mais profunda do fenômeno. As implicações também são discutidas.

Descritores: Cuidados de Enfermagem; Organização e Administração; Liderança; Qualidade da Assistência à Saúde; Pesquisa em Administração de Enfermagem.

¹Universidade Federal de Santa Catarina. Florianópolis, SC, Brazil.

²Universidade Federal de São Paulo. São Paulo, SP, Brazil.

³University of North Carolina at Greensboro. North Carolina, United States.

Corresponding author: José Luís Guedes dos Santos

Universidade Federal de Santa Catarina. Departamento de Enfermagem. Bloco I, sala 304. Rua Engenheiro Agrônomo Andrei Cristian Ferreira, s/n - Trindade, CEP: 88040-900. Florianópolis, SC, Brazil. E-mail: jose.santos@ufsc.br

Introduction

Nursing leadership, when characterized by creativity, innovation, and vision can result in optimal patient health outcomes⁽¹⁾. As leaders working for improved care in the hospital setting, nurses are viewed by their team members and patients as key professionals⁽²⁾. Evidence shows that in various health care settings, effective nursing management was associated with positive manager-staff relationships, increased work involvement and better work environments which, in turn, led to improved patient safety and quality of care⁽¹⁻⁵⁾. Good nurse leaders are responsible for effective and efficient implementation and development of service management actions with a focus on improving their staff's performance and patient outcomes⁽⁶⁻⁷⁾.

Even though Brazil is a fast-growing country in the areas of industry and health care, nursing in this country does not have extensive research regarding the association between nursing leadership and quality of care. Those existing studies are limited by the use of mono methodology, either an inductive qualitative method or a deductive quantitative method. As a result, previous research is limited in terms of its generalizability and ability to offer a deeper understanding of the phenomenon^(1-2,6-7).

Therefore, using both quantitative and qualitative methods to study nursing leadership and quality of care is needed to help advance the nursing science and practice in Brazil and elsewhere. The present study questioned: what is the relationship between nursing leadership and quality of care in the public hospital environment? How does nursing leadership contribute to the quality of care in this environment? Results from this study will assist nurses to be competitive and effectively focus their efforts on the path to optimal patient care.

The objective of this mixed method study was to examine and describe the relationship between nursing leadership and the quality of care in the public hospital environment.

Methods

Based on pragmatism, this concurrent convergent mixed method design applied a cross-sectional correlational design for the quantitative arm and grounded theory for the qualitative arm⁽⁸⁾. The data collections covered the period from November 2012 to November 2013. Quantitative and qualitative data were analyzed separately and integrated at the level of interpretation and reporting to identify convergences, differences or combinations⁽⁹⁾.

The research setting was a 268-bed public university hospital located in Florianópolis, in the Southern Region of Brazil. The nursing service of the institution is organized and structured in four care divisions: Emergency and Outpatients; Medical Clinic; Surgical Clinic; and Women, Child and Adolescent Health.

A convenience sampling was used to recruit participants for the quantitative arm. Out of 162 staff nurses from the university hospital, 132 met the inclusion criteria, including at least three-month-experience working at the hospital and developing patient care activities in their units. Those on vacations or leaves were excluded from the study. Nine out of 132 declined participation, remaining 123, who agreed to participate. The main researcher or a research member handled questionnaires to 123 nurses at each unit and asked them to answer them in a private room in a single session. Upon data completion, the participants returned the questionnaire packet to the research team according to a schedule. Out of the 123 nurses, 18 did not return the instruments, despite of three reminders issued by the main researcher or by research team members. Therefore, 105 (79.5%) packets were completed.

The quantitative research packet included three questionnaires: 1) social-demographic: age, sex, marital status, duration of professional experience, duration in the institution and training; 2) the Brazilian Nursing Work Index Revised (B-NWI-R)/Leadership subscale; and 3) evaluation of the quality of care

from the point of view of the nurses.

Nursing leadership was measured by the B-NWI-R/Leadership subscale⁽¹⁰⁻¹¹⁾. The scale comprises 12 items with back translation that is appropriate for Brazilian culture⁽¹²⁾. The participant was asked to rate the extent to which they agreed with each statement. A statement example is "This factor is present in my daily work." Potential answers are: I totally agree (1 point); I partially agree (2 points); I partially disagree (3 points); and I totally disagree (4 points). The item scores were summed to generate the total score. The lower the score, the better the nursing leadership⁽¹³⁾. Resulting internal consistency was good ($\alpha=0.86$) for this study.

The quality of care, that is, the extent to which the staff nurse perceives her/his own quality care provided to her/his patient, was measured through a single Likert-type item, "How do you evaluate the quality of nursing care provided to the patient?" Potential responses included: (1) very bad, (2) bad, (3) good, and (4) very good.

Quantitative data were entered into Excel® and analyzed by the Statistical Package for the Social Sciences (SPSS) for Windows, 19.0. To describe the sample's characteristics, descriptive statistics such as frequency and percentages were used for categorical variables, while mean, standard deviation, maximum, and minimum were used for continuous variables. For the key continuous variables of nursing leadership and the quality of care, Pearson's *r* was performed to examine the association between these two concepts, setting the significance level at 5%.

Theoretical sampling⁽⁸⁾ was used to recruit a total of 63 participants (P) with three sub-groups: 32 staff nurses in group 1 (P1 to P32); 13 nurse managers in group 2 (P33 to P45); and 18 other health care professionals in group 3 (P46 to P63). Groups 1 and 2 were recruited from the four care divisions. Group 3 included nursing technicians, physicians, psychologists, a nutritionist and a speech therapist. Nurses highlighted in the interviews the importance of the nurse managers and the health

care professionals on their leadership and the quality of care in the hospital environment. Based on this fact, interviews with group 2 and 3 were necessary in order to understand their involvement in the phenomena under investigation. The participants' statements were identified by codes using the letter "P", for participant, and a number assigned according to the interview order: 1 to 63.

The data were collected through intensive interviews⁽⁸⁾, with questions that sought to explore the meanings and practice processes of nurses in relation to their leadership role and ways to improve the quality of care. All interviews were recorded, with an average duration of 22 minutes. Data analysis was performed based on Charmaz' coding methods comprising initial coding and focused coding. Based on Charmaz, in the initial phase, words, lines and segments of the transcript are read closely and then coded. In the focused coding phase, initial codes seen frequently and deemed significant are classified, integrated and synthesized to generate categories and themes⁽⁸⁾. Grounded Theory according Charmaz was selected because of its constructivist approach, which allows the theory construction directly through the interpretation of the participants' stories, without the use of analytic tools.

The data analysis was performed by the NVivo®, version 10. Through this analytical process, the central theme emerged: "Exercising the governance of professional nursing practice in a university hospital". In this study, the category representing the relationship between nurse leadership and the quality of care will be presented.

The study complied with the formal requirements contained in the national and international regulatory standards for research involving human beings.

Results

Out of 105 nurses, the majority were female (92.4%) and about half were married (50.5%) with

an average age of 38.2 (SD=9.43; min=23, max=61). Participants had a mean of 13.8 years (SD=9.44; min=7.0, max=35) of professional nursing experience and 12.3 years (SD=9.69; min=7.0, max=33.4) working in the institution. Most of the participants had a postgraduate degree, with a certificate in a specialty area (46.7%) or a master's degree (38.1%).

The B-NWI-R/Leadership subscale mean values ranged from 1.65 to 2.68. Only the first item (Nurses actively participating in efforts to control costs) presented a value above 2.5, indicating a less optimal nursing leadership role. The other items were rated as favorable (Table 1).

The quality of care was considered "good" by 75.2% (n=79) and "very good" by 24.8% (n=26) of the nurses. Based on resulting Pearson's r, the relationship between nursing leadership and the quality of care was statistically negatively significant ($r=-0.25$; $p=0.001$), indicating the better the nursing leadership, the better the quality of care.

Based on qualitative coding, the central theme of the subcategory "Exercising leadership in nursing with a focus on quality of care" emerged with five processes: (1) "Becoming a leader, even unintentionally"; (2) "Establishing a dialogical and collaborative leadership with the nursing team"; (3) "Advocating for better patient care"; (4) "Highlighting the contributions of the professional master's degree to best care practices"; and (5) "Seeking collective engagement to improve quality of care."

It was evidenced in the process "Becoming a leader, even unintentionally" that the nurses were naturally the points of reference for and leaders of the health team when health care members had doubts about the procedures and patient care. A participant stated the following. *The nursing team needs to have a nurse who is a leader, who has knowledge for them to feel safe. They need to know that they are going to have someone to ask questions and get help (P6). ...The nurse ends up being a leader even though (s)he is the central figure of the team. (S)he ends up being the reference and team leader (P43).*

Table 1 – B-NWI-R/Leadership subscale

Item	Mean*	Standard Deviation**
Nurses actively participate in efforts to control cost	2.7	0.8
The director of the nursing department is accessible and always present for the team	2.4	0.9
Recognition and praise for a job well done	2.4	0.9
Support for new and creative ideas about patient care	2.2	0.7
The nursing team participates in the choice of new equipment	2.2	0.9
Nursing managers consult their staff about day-to-day procedures and problems	2.1	0.8
The nurse manager is a good administrator and leader	2.1	0.8
A clear nursing philosophy that permeates the patient care environment	2.1	0.1
Each nursing unit determines its own standards and procedures	1.8	0.9
The nurses participate actively in the elaboration of their scale of work (that is: days that must work, breaks, etc.)	1.8	0.8
Nursing care is based more on nursing models than on medical models	1.7	0.8
Flexibility in changing the work scale	1.6	0.8
Total	2.1	0.5

*Mean (values: 1-4)

In the process of “Establishing a dialogical and collaborative leadership with the nursing team”, the participatory style of leadership seemed to be adopted by nurses. The nurses sought to establish a good interpersonal relationship with their team members because they believed that leadership based on mutual trusts and dialogues within the nursing team is fundamental to the quality of care provided to their patients. *I try to lead in a democratic way, always encouraging people to share with us their opinions on decisions, trying to listen to what my colleagues have to say (P1). You have to have a leader in your team, and you also have to have allies, you have to know how to motivate and how to praise others (P17). When I realize that something in the path is failing or something lacks to be done and it has passed, I ask my team members to help me out or I have to do the task myself (P14). ...It is important that you have leadership and at the same time you can maintain a good relationship with the team, this is crucial, they have to trust you and you have to trust them (P21).*

The process of “Advocating for better patient care” highlights the nurse’s role in directing actions aiming at better care for patients in the hospital environment. The nurses pursued increased efficiency and effectiveness in patient care. *I think the nurse’s primary role is directing the team’s actions to improve the quality of patient care by involving all the team members under his/her responsibility (P25). The main responsibility is to guarantee assistance to everyone, the people who are seeking for services, to ensure that the services are efficient and effective (P22). ...In my role as a nurse manager, mainly due to my fights for and advocacy of my patients. Nursing is always about what is best for the unit and what is best for the patient (P42).*

The process of “Highlighting the contributions of the professional master’s degree to best care practices” stresses the benefits of the professional master’s program in nursing care management. This modality of postgraduate teaching is conducted by hospital nurses in partnership with professors of the Nursing Department of the University to which the hospital is linked academically and has driven professional nursing practice to go beyond excellence. *The professional master’s degree has opened space for research within the unit because the student chooses a problem from our unit and address it, which has resulted in the improvement or solution of that problem. There are*

three of our nurses doing master’s degree and the research is aimed... to improve our practice (P7). There have been many improvements due to the professional master’s degree being incorporated into the institution, for example, a waiting room for the orientation of fine needle aspiration using x-ray, we have already been able to implement the use of the second stage of the nursing process in a clinic (P41).

The process of “Seeking collective engagement for the improvement of quality of care” focuses on the difficulties of nurses in relation to leadership and quality of care. These difficulties were mainly related to performing actions and implementing goals to improve the quality of care and the management process within the institution.

Despite quantitative evidence that good leadership was associated with better quality of care in this study, qualitative findings showed that nurses voiced that improving the quality of care was a continuous challenge and required collective involvement. While quality of care has been widely discussed in the working groups, the lack of clear directions, strategies, and actions in some hospital units was evident. *Not everything is implemented because some of these situations are repetitive and we can see, for example, that improving the quality of care is something that perpetuates in the meetings, but you do not see great advances in practice (P22). ...the quality of care is not what it should be..., but, we are seeing some adverse events, trying to correct it by talking to people. It needs an ant’s [collective] work, to go there and to discuss with everyone to try to correct and improve the practices (P39).*

Regarding people management, difficulties arose related to professionals’ commitment to their roles in the institution. As the investigated setting is a public hospital in which most professionals are permanent workers, nurses believed that the functional stability resulting from their civil servant status interfered with their performance, in the search for professional improvement and in the professionals’ own involvement with the work environment. *Managing people in public services is difficult...they do not see the importance of some changes, they are more concerned about their workload, receiving extra hours, than doing something for everyone and for the unit itself (P3). ...they think that after passing the public servant exam,*

everything is already guaranteed. They do not need to improve their performance anymore because they will not be fired. If it is a private institution, I think people feel pressured and try to improve because they are afraid of being fired (P11).

Discussion

This study has some limitations. The study setting includes only one public hospital. Also, a non-probabilistic sampling was used to recruit participants in the quantitative arm. Despite the limitations, this mixed method research found a significant relationship between nursing leadership and the quality of care in the hospital environment. This result reinforces the findings of previous studies conducted in Brazil⁽⁷⁾, Canada⁽¹⁴⁾, and the United States⁽¹⁵⁾, which evidenced that the better the nursing leadership, the better the quality of care.

Nurse participants in our quantitative arm rated all but one of the B-NWI-R/Leadership subscale items as favorable to nursing leadership, an indication that nurses perceived flexibility in the elaboration of work scales, proximity to nurse managers and opportunities to express opinions about norms and care behaviors. The scale item related to the nurses' participation in cost control was the only item evaluated as unfavorable. Our findings are different from those in Australia (using the same subscale) which found that Australian nurses rated five attributes related to leadership as unfavorable⁽¹¹⁾.

In our study, the report of limited participation of nurses in cost control may be associated with unique culture of public hospital institutions, where accountability of actions is not common and a policy focused on the management of hospital costs does not exist. Therefore, to improve patient care quality, it would be beneficial to broaden the nurse's role by expanding their cost management role, including their decision-making in using hospital materials and equipment⁽¹⁶⁾.

Our quantitative result is congruent with our qualitative findings. While the quantitative arm found

that the better the nursing leadership, the better the quality of care, qualitative results provided more in-depth information as to the processes of nursing leadership that helped moving towards improved quality of care. In the qualitative arm, aspects related to the establishment of a dialogical leadership, horizontal work with the team and perception of the importance to improve the quality of care through professional improvement were described.

North American research also highlighted the importance of nurse leaders in the development of safety culture in the hospital environment based on strategies to improve quality of care and better interpersonal relationship in the health team⁽¹⁵⁾. Similar studies are scarce in Brazil, where nursing leadership still needs to be investigated, aiming at improving quality care through optimal nursing leadership process and actions^(1-2,6).

In Brazilian public hospital context, leadership exercised by nurses emerged as something inherent to the organizational work processes in health and nursing and is in line with evidence in previous studies^(1,17). Despite the intrinsic relationship between the nursing leaders' role and the work of the nurses, the importance of the continuous development of the personal and professional leadership abilities is warranted. This involves a development of leadership skills and abilities for decision making, communication, teamwork and effective management. Continuously improving leadership skills through innate characteristics, from previous experiences and scientific technical knowledge can help nurses to encourage the team to achieve quality care goals^(1,6,17).

The present study also showed that leadership enabled nurses to advocate for better patient care. The nurses participating in this research emphasized that the focus of nursing performance was to provide efficient and effective care to their patients. In the context of health care, advocacy as a process of speaking on behalf of the patient or acting in defense of their best interest is important. In the United States, nurses play a key role in patient advocacy, so much so that

advocacy is regulated as one of the competencies of these professionals⁽¹⁸⁾.

Regarding participants in our study, nurses who were enrolled in the professional master's degree have clearly helped their institution to significantly improve patient quality care using their learned leadership and research skills. Professional master's programs focusing on nursing management have reached their maturity in Brazil, offering courses including the introduction of technological innovations and new forms of work organization. These courses lay a solid groundwork for the redesigns of nursing and health care in combination with the collaborations between the health care and education sectors aiming at innovative practices and better quality of care⁽¹⁹⁾. Thus, it is of great importance that nurses conduct further studies in such a program to enhance their leadership and research abilities.

The present study also found that the stability of civil servant employment status could discourage hospital workers from being involved in actions aimed at developing work improvements. However, the lack of recognition and appreciation must be considered as a factor that can interfere with public servants' productivity. Evidence shows that professional nursing involvement and commitment is associated with the work environment. Organizational support, quality of materials, workload and recognition from managers/leaders for the work performed can contribute to a greater professional commitment to the institution, which consequently affects the quality of care⁽²⁰⁾. Thus, discussions on management models and broader solutions in the structure of public services are necessary to allow greater involvement of professional work and to improve the quality of care in the hospital environment.

Results from the present study support the relationship between nursing leadership and the quality of care in the hospital environment. Thus, further trainings and studies in the area of nursing management are necessary to improve nursing leadership and quality of care. These could be done at clinical and educational settings. For example,

in professional practices, fostering discussions and reflections about leadership performance for better quality of care among nurses and managers is encouraged. Developing leadership skills throughout the process of nurse training is also beneficial. In the field of research, it is significant to conduct future studies that can advance the scientific knowledge in the areas of nursing leadership, nursing practice and quality care, especially with the use of mixed methods.

Future studies should be conducted in a private hospital context to enhance the knowledge and our understanding of the phenomenon of interest. Results from future research in the private hospital context can then be compared with our findings in the public hospital context. Finally, exploring the challenges of people management in relation to nursing leadership practices will be helpful to advance the nursing leadership science and practice.

Conclusion

This study supported the association between nursing leadership and patient quality care and contributed to the understanding of nursing leadership processes towards better care quality in the public hospital environment. Based on the processes, leadership emerged as a natural trait in nurses in the team work context. In sum, nurses sought to establish a dialogical and collaborative leadership with the nursing team to develop effective actions to improve their care. Challenges to these processes include difficulties in people management and the unique characteristics of the public hospital setting.

Collaborations

Santos JLG, De Pin S and Guanilo MEE contributed to the conception and design, analysis and interpretation of the data. Balsanelli AP, Erdmann AL and Ross R contributed to the writing of the manuscript, relevant critical revisions of the intellectual content and final approval of the version to be published.

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