CHALLENGES FACED BY NURSE-MANAGERS AT WORK IN BRAZILIAN AND PORTUGUESE HOSPITALS: A MIXED-METHODS STUDY

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ABSTRACT

Objective: to analyze the challenges found in nurse-managers' work in the Brazilian and Portuguese hospital contexts.

Method: a mixed-methods research study with a sequential explanatory approach, carried out between March 2019 and March 2020 with nurse-managers from four hospitals. The study was initiated with the quantitative stage, applying a survey to 143 participants and analyzing the data by means of analytical and inferential statistics. The qualitative stage was carried out with 71 of these participants using interviews, in order to understand the challenges inherent to this job, and the data were submitted to content analysis. Integration of the findings was performed through data connection.

Results: in the quantitative stage, the results evidenced that the managerial activities carried out by nurses by scenario included planning, people management, management of care processes, management of materials, quality management and leadership, with higher mean values for the first four. The qualitative stage allowed deepening the previous findings, contrasting invisibility of the planning, confirming people management as the common challenge to the realities, explaining the mean values in the national and Portuguese scopes. Integration of the findings detailed the relevance of the conflicts and the deficit of professionals in people management and leadership.

Conclusion: managing people, care processes and materials are challenges for nurses in hospital management in both countries. Nurses lack structural support and ongoing training for better management and improvement of planning and leadership.

DESCRIPTORS: Health management. Administration of health services. Administration of Human Resources in Hospitals. Nursing. Hospitals.

DESAFIOS DE ENFERMEIROS GESTORES NO TRABALHO EM HOSPITAIS BRASILEIROS E PORTUGUESES: ESTUDO DE MÉTODOS MISTOS

RESUMO

Objetivo: analisar os desafios presentes no trabalho de enfermeiros gestores no contexto hospitalar, no Brasil e em Portugal.

Método: pesquisa de métodos mistos, abordagem explanatório sequencial, realizada com enfermeiros gestores de quatro hospitais, entre março de 2019 e março de 2020. O estudo iniciou com a etapa quantitativa, aplicando um *survey* a 143 participantes e dados analisados por estatística analítica e inferencial. A etapa qualitativa foi realizada com 71 destes participantes utilizando entrevistas, para compreender os desafios deste trabalho, e os dados foram submetidos à análise de conteúdo. A integração dos achados foi realizada por meio de conexão de dados.

Resultados: na etapa quantitativa os resultados evidenciaram que as atividades de gestão realizadas pelos enfermeiros por cenário, incluíram planejamento, gestão de pessoas, de processos assistenciais, de materiais, da qualidade e liderança, com maiores médias para os quatro primeiros. A qualitativa permitiu aprofundar os achados anteriores, contrastando a invisibilidade do planejamento, confirmando a gestão de pessoas como o desafio comum às realidades, explicando as médias nas realidades nacional e portuguesa. A integração dos achados detalhou na gestão de pessoas e liderança a relevância dos conflitos e do déficit de profissionais.

Conclusão: gerenciar pessoas, processos assistenciais e materiais se mostram desafios dos enfermeiros na gestão hospitalar nos dois países. Os enfermeiros carecem de suporte estrutural e formação continuada para melhor gestão e aprimoramento do planejamento e liderança.

DESCRITORES: Gestão em saúde. Administração de serviços de saúde. Administração de Recursos Humanos em Hospitais. Enfermagem. Hospitais.

DESAFÍOS ENFRENTADOS POR ENFERMEROS GERENTES EN SU TRABAJO EN HOSPITALES DE BRASIL Y PORTUGAL: ESTUDIO DE MÉTODOS MIXTOS

RESUMEN

Objetivo: analizar los desafíos presentes en el trabajo de enfermeros gerentes en el contexto hospitalario, tanto en Brasil como en Portugal.

Método: investigación de métodos mixtos con enfoque explicativo secuencial, realizado entre marzo de 2019 y marzo de 2020 con enfermeros gerentes de cuatro hospitales. El estudio se inició con la etapa cuantitativa, aplicando una encuesta a 143 participantes y analizando los datos por medio de estadística analítica e inferencial. La etapa cualitativa se condujo con 71 de estos participantes por medio de entrevistas para comprender los desafíos de este trabajo, y los datos se sometieron a análisis de contenido. La integración de los hallazgos se realizó por medio de conexión de datos.

Resultados: en la etapa cuantitativa, los resultados evidenciaron que las actividades de gestión realizadas por los enfermeros y por escenario incluyeron planificación, gestión de personas, de procesos asistenciales, de materiales, de la calidad, y liderazgo, con valores medio más elevados para las cuatro primeras. La etapa cualitativa permitió profundizar los hallazgos anteriores, contrastando la invisibilidad de la planificación y confirmando que la gestión de personas es un desafío común am ambas realidades, explicando los valores medios en los ámbitos de Brasil y de Portugal. La integración de los hallazgos detalló la relevancia de los conflictos y el déficit de profesionales en la gestión de personas y en el liderazgo.

Conclusión: gerenciar personas, procesos asistenciales y materiales se erige como un desafío que deben afrontar los enfermeros en la gestión hospitalaria en ambos países. Los enfermeros carecen de soporte estructural y de formación continua para una mejor gestión y para perfeccionar la planificación y el liderazgo.

DESCRIPTORES: Gestión en salud. Administración de servicios de salud. Administración de Recursos Humanos en hospitales. Enfermería. Hospitales.

INTRODUCTION

In health systems, especially in hospital organizations, the activities related to management are complex, considering that they include provision and monitoring of conditions for safe and quality care, including the coordination of collective work and structural organization, in addition to organizing material and inputs. Among the nurses' functions in their managerial competence, there is a reference to the responsibility of providing resources for the work environment, in order to guarantee all the necessary conditions for the provision of services by the care team[1–2].

In Brazil, the Nursing profession is regulated by Professional Practice Law (*Lei do Exercício Profissional*, LEP) No.7,498/1986 and managerial activities are considered exclusive to nurses. These professionals are responsible for coordinating and training teams, planning, leading, managing materials and participating in the process of providing infrastructure for the operation of health and nursing services[3]. The Federal Nursing Council system and the Regional Nursing Councils have the legal duty of regulating and supervising the professional practice, based on the provisions set forth in LEP and in infra-legal regulations. However, there is no specific regulation among the infra-legal devices dealing with regulation of nurse-managers' work; only several titles are recognized as Nursing Management specialties[4].

In Portugal, Nursing is only practiced by nurses, and nurse-managers' work follows the norms of the Order of Nurses (*Ordem dos Enfermeiros*, OE)[5]. Regulation No. 76/2018, "Advanced Added Competence in Management", defines the nurse-managers' competence profile, which involves professional, ethical and legal practice, including the following: quality and safety management; management of professional and organizational development; planning, organizing, directing and controlling; evidence-based professional practice oriented towards obtaining gains in health; and counseling and consultancy practices. The set of these legal competencies guides nurse-managers' performance and reasserts their relevance, not only in Nursing care, but also in management[5].

In managerial work in hospitals, nurses carry out multiple activities, including Nursing staffing, development and stimulus for permanent training of professionals, conflict and communication management, and support in decision-making, with the objective of expanding professional autonomy[6–9]. However, managerial work has become increasingly challenging for nurses due to structural deficiencies, lack of professionals and materials, workers' exhaustion and the profession's limited social prestige, also including difficulties related to experimentation, availability and evaluation of management models and innovative technologies[7–8,10–12].

In this sense, nurse-managers need to develop competencies, master and apply diverse knowledge related to typical areas of this work, such as planning, leadership, people management, management of care processes, quality management and management of materials[2,8,10–11]. Nurses' training and preparation to act in management should be treated as a priority, as the way in which management and care processes are conducted exert an impact on the effectiveness (or not) of nurses' work and on care quality and safety.

Knowledge about management challenges contributes to the development of strategies aimed at solving problems and promoting quality in the hospital context. Considering the importance of hospitals in the field of health and management work in these spaces and the need to know and critically analyze what nurse-managers do, including two countries with different cultural contexts, mixed-methods research is relevant to broaden understanding of the study object.

Considering the theoretical assumptions of the work process and current regulations of multilateral organizations in the two countries where the study was developed, the study was initiated from the

following research question: Which are the challenges faced by nurses in carrying out management work in hospitals and the related factors? Given the above, this research aimed at analyzing the challenges found in nurse-managers' work in the Brazilian and Portuguese hospital contexts.

METHOD

This is a mixed-methods research study, chosen for its potential to broaden and deepen understanding of a complex theme[13–14], as is the case of Nursing Management in the formulated problematization. The sequential explanatory approach was used, identified with the "QUAN" and "qual" notations, in order to highlight this choice throughout the text[13]. In the first stage, the QUAN data were collected, followed by the statistical analysis, carrying more weight due to the need to explore reality. The follow-up, in the qual stage[13], focused on seeking to understand the challenges encountered in this work, using the resource of interviews, carried out with part of the participants from the QUAN stage. After a separate analysis, the joint interpretation took place through the connection between QUAN findings and what was found in the qual stage, allowing to broaden understanding about what to do and the challenges found in nurse-managers' work.

The study followed the criteria of methodological rigor for mixed-methods studies, according to the Mixed Methods Appraisal Tool (MMAT).

The research was carried out in two hospitals in Brazil and another two hospitals in Portugal, one accredited by the Joint Commission International (JCI) and one university hospital in each country. The Brazilian institutions are located in the states of Santa Catarina and São Paulo, and their Portuguese counterparts are in the city of Porto and in the district of Braga. Choice of the institutions was intentional, considering the following criteria: hospitals with different specialties and reference hospitals for providing quality care to the population in their respective locations. In both countries, the accredited hospitals were in the private sector and the university hospitals belonged to the public sector.

The research was initiated with the QUAN stage. Nurses who held a managerial function/position in services/sectors or in the Senior Management of all four scenarios were included. Professionals absent for any reason were excluded. After contacting the top management of the hospitals and/or nurses who held these positions, an eligible population of 187 nurse-managers was identified. For sample calculation, a 95% confidence level, a 5% margin of error and 10% losses were considered. The sample was calculated at 140 participants. All those eligible received an invitation to participate in the study, and 143 nurse-managers answered the survey, comprising the sample for the QUAN stage of the study.

Subsequently, the universe of participants in the QUAN stage was invited to the qual stage, which had the participation of 71 nurse-managers, then performing the collection procedure and the quantitative data analysis. The sample was considered sufficient by the representativeness criteria of all four institutions and saturation of the findings[15].

Data collection took place over 12 months, from March 2019 to March 2020. Both in Brazil and in Portugal, the process to include the participants took place after previous institutional contacts, which made it possible to send the survey via email or through face-to-face invitations to participate in the study. First, the participants received an invitation and diverse information about the research and, upon acceptance (signing the Informed Consent Form), they received the survey by email. Subsequently, those who agreed to take part in the qual stage were accessed in person, including all those that agreed to participate.

Thus, in the QUAN stage, the nurse-managers answered a survey prepared by the authors. The construct and language validation process was carried out with Brazilian and Portuguese researchers and, before application, it was tested in both countries with 20 nurses not included in the sample.

The survey included six dimensions, considering the structural areas inherent to managerial work in organizations in general and in health and nursing[3–8]: planning, people management, management of care processes, management of materials, quality management, and leadership. The variables to comprise each dimension were elaborated, including a different number of questions for each one, as follows: planning (eight); people management (18); management of care processes (12); management of materials (five); quality management (six); and leadership (seven). Each variable was assessed using a Likert-type scale from 0 to 4, where: I don't do it/Does not apply (0); I almost don't do it (1); I sometimes do it (2); I almost always do it (3); I always do it (4). The instrument underwent internal consistency analysis by calculating Cronbach's alpha, which obtained a value of 0.918.

Sequentially, in the qual stage, the nurse-managers participating in the QUAN stage were invited to take part in an interview led by a guiding question, and a gap was revealed from the quantitative analysis: Currently, which is your biggest challenge as a nurse-manager? The participants in the qual stage totaled 71 nurse-managers. The participants were interviewed at their workplaces, by prior appointments, both in Brazil and in Portugal. Each interview lasted a mean of one hour, was recorded and held in a private environment.

The QUAN stage findings underwent descriptive analysis, using mean, standard deviation, median and interquartile range (IQR), consisting of quartile 1 and quartile 3 ([q1; q3]), minimum and maximum, for data presentation. In the inferential analysis, the Shapiro-Wilk test was considered to test data normality and confirm normal distribution. To compare the mean values of the indices from each dimension and in each hospital under study, the Generalized Estimation Equations model (GEE Model) was used, and the Bonferroni multiple comparison test was employed to analyze significance.

The mean values of the dimensions contained in the survey were also compared, considering the countries and types of hospitals. To compare the main effects and the effect of the interaction between factors, country and type of hospital for each management area, a two-way analysis of variance (2-way ANOVA) was performed. The significance level adopted for all tests in the QUAN stage was 0.05. The analyses were performed using the Statistical Package for Social Sciences (SPSS) software, version 25.

The qual stage findings, arising from the interviews, were transcribed and entered into the ATLAS.ti 8.4.24 software, in DOC format and with sequential numbering. The analysis followed the content analysis precepts[16], selecting significant excerpts and assigning codes that represented the challenges in managerial work. The codes were articulated in topics, having as reference the management dimensions of the QUAN stage.

Subsequently, the data were integrated using the strategy of connecting the findings obtained in the QUAN and qual stages. It is noted that, in this study, the connection made was between the nurse-managers' actions (by management area) and what was mentioned as the main challenges. The follow-up added data to the research to broaden understanding of the problem, considering, in the interpretation, the existence of convergences or divergences between both databases.

The research respected the international ethical precepts for research studies with human beings and the provisions set forth in Resolution n° 466/12 of the Brazilian National Health Council. The participants' statements were coded using the following: E for Nurse ("*Enfermeiro*" in Portuguese), a serial number, P (Portugal) and B (Brazil) (e.g.: E12B and E10P).

RESULTS

A total of 143 nurse-managers participated in the research: 17 from the university hospital in Brazil, 44 from the university hospital in Portugal, 22 nurses from the accredited hospital in Portugal and 60 from the accredited hospital in Brazil. Considering the QUAN data from both countries and all four institutions, the study participants, who totaled 143, were mostly women (n=121/85.1%). In relation

to professional training, they had specialization degrees (n=83/57.7%), MSc degrees (n=40/28.2%) and PhDs (n=7/4.9%). With regard to the experience time in management, the Portuguese nurses had longer experience as managers (median=16 years; IQR=[1;8]), when compared to those from Brazilian hospitals (median=5 years; IQR=[8.5;20]). Statistical significance was verified between the "experience time" variable and the country where the nurses worked (p<0.001).

The data related to the managerial activities carried out by the nurses were systematized according to the scenarios investigated and organized into six dimensions, representing the managerial work areas found in health and nursing organizations, as used in the survey (Table 1).

Table 1 - Performance areas in nurse-managers' work according to type of hospital and country. Brazil and Portugal, 2020 (n=143).

Scenarios/Dimensions	Mean†	Median [q1; q3]	Min-Max
University* - Brazil (n=17)‡			
Planning	2.85a (0.65)	3 [3; 3]	1 – 4
People management	2.50b (0.48)	3 [2; 3]	1 – 3
Management of materials	2.49ab (0.51)	2 [2; 3]	1 – 3
Leadership	2.43ab (0.79)	3 [2; 3]	1 – 4
Management of care processes	1.96bc (1.01)	2 [1; 3]	0 – 3
Quality management	1.75c (0.86)	2 [1; 2]	0 – 3
University* - Portugal (n=44)‡			
Management of materials	3.52a (0.63)	4 [3; 4]	1 – 4
Planning	3.24b (0.54)	3 [3; 4]	2 – 4
People management	2.85c (0.56)	3 [3; 3]	2 – 4
Management of care processes	2.67cd (0.76)	3 [2; 3]	1 – 4
Quality management	2.50d (0.72)	2 [2; 3]	1 – 4
Leadership	1.93e (0.82)	2 [1; 2]	0 – 4
Accredited* - Brazil (n=60)‡			
Planning	3.26a (0.61)	3 [3; 4]	1 – 4
Quality management	3.06ab (0,66)	3 [3; 4]	1 – 4
People management	2.89b (0,55)	3 [3; 3]	1 – 4
Management of care processes	2.89abc (1,01)	3 [3; 4]	0 – 4
Management of materials	2.75bc (0.95)	3 [2; 4]	0 – 4
Leadership	2.41c (1.03)	3 [2; 3]	0 – 4
Accredited* - Portugal (n=22)‡			
Planning	3.30a (0.63)	4 [3; 4]	2 – 4
Management of materials	3.09ab (1,28)	4 [3; 4]	0 – 4
People management	2.66bc (0,53)	3 [2; 3]	1 – 4
Management of care processes	2.54c (1,09)	3 [2; 3]	0 – 4
Quality management	2.48bc (0.76)	2 [2; 3]	1 – 4
Leadership	2.24c (1.06)	2 [2; 3]	0 – 4

*Hospital; †Standard Deviation; ‡p<0.001 for all institutions (calculated using the GEE model). Different letters (a,b,c,d,e) represent different mean values between the management areas according to the hospital under study (Bonferroni *post-hoc* test).

When applying the Bonferroni *post-hoc* test, it was identified that, at the university hospital from Brazil, the highest mean values found were in the planning(a), management of materials (ab) and leadership(ab) dimensions. At the university hospital in Portugal, the highest mean value was in the management of materials(a) dimension. At the accredited hospital in Brazil, the highest mean values found were in planning(a), care processes(abc) and quality management(ab). At the accredited hospital in Portugal, the highest mean values were found in planning(a) and management if materials(ab). The mean scores for the country/type of hospital interaction in each of the dimensions are shown in Figure 1.
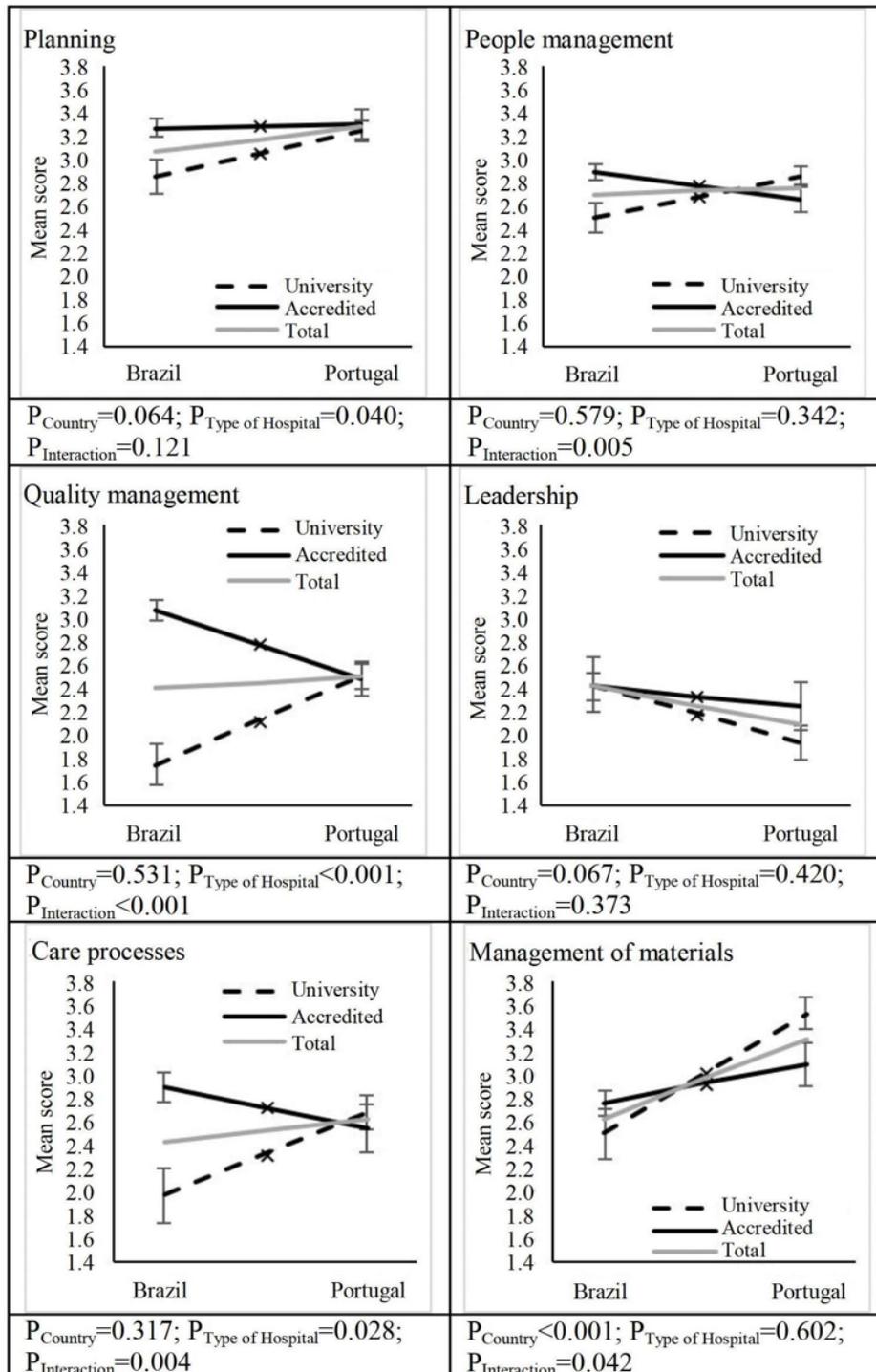
Figure 1 - Mean of the country/type of hospital interaction scores, according to the nurse-managers' performance areas, Brazil and Portugal, 2020.
Note: ANOVA Test

In Figure 1, it can be seen that significant interactions were found in the people management (p=0.005), management of care processes (p=0.004), management of materials (p=0.042) and quality management (p<0.001) dimensions.

The qual stage data are presented in Chart 1, articulated with the QUAN stage findings. For the integration and final analysis, the strategy of connecting the findings was used, considering convergences or divergences between both databases and relating the challenges mentioned to the management areas organized in Table 1. Chart 1 presents the data integration in a joint display.

Chart 1 – Joint display articulating the results of the QUAN and qual stages according to type of hospital and country. Brazil and Portugal, 2020.

Management work areas	QUAN results (mean)				qual results	
	*UHB	†UHP	‡AHB	§AHP	‖UH	¶AH
Planning						
High mean values in all hospitals. However, not mentioned in the qual stage.	2.85	3.24	3.26	3.3	*Difficulty doing, carrying out and executing the planning* (E2B)	No reference to challenges related to planning was identified in the nurse-managers' statements.
People management						
High mean values in all hospitals, constituting the biggest challenge for managers in the qual stage, as exemplified in the statements.	2.5	2.85	2.89	2.66	*Managing human resources [...], managing teams, conflicts, personalities and maintaining this balance is very difficult* (E7P). *Human resource management is not just managing numbers, it is managing people with everything that it involves: communication, conflict management, the absences that we have, ensuring the team's relationship* (E9B). *Conflict and people management* (E5B).	*People management, in general, is very complicated, managing people in personal conflicts* (E12B). *People and conflict management* (E10P).
Management of care processes						
High mean values in the accredited hospital from Brazil and lower ones in the university hospital from Brazil. The challenge is detailed in data integration.	1.96	2.67	2.89	2.54	*The difficulty is being able to satisfy my professional area and still have time to manage both services. I think that they are two very large, very complex services, they are the hospital's gateway* (E2P).	*Process management, everything from surgery, management articulating everything* (E22B).

Chart 1 – Cont.

Management work areas	QUAN results (mean)				qual results	
	*UHB	†UHP	‡AHB	§AHP	‖UH	¶AH
Management of materials						
Higher mean value in the Portuguese hospitals. The challenge is detailed in data integration.	2.49	3.52	2.75	3.09	*Systems that are not so easy to use, wasting time and discrediting the system. Not taking advantage of everything they could take advantage of* (E15B). *We do not have materials needed in Neonatology* (E3P). *Lack of computerized control* (E15B).	*How to deal with the technology culture and ensure patient care and welcoming* (E14P).
Quality management						
Lower mean at the university hospital in Brazil and higher at the accredited hospital in Brazil. The challenge is detailed in data integration.	1.75	2.5	3.06	2.48	*Achieving more good quality professionals* [X offer of qualified professionals in the market]. *Maintaining care quality in this situation is a challenge* (E24B).	*Demonstrating that technology is an important tool for patient safety, effective communication and optimization of Nursing time* (E22P). *Maintaining operation with quality and safety, having sustainability* (E2P).
Leadership						
Lower mean values at the university accredited hospitals in Portugal. The challenge is detailed in data integration.	2.43	1.93	2.41	2.24	*The biggest challenge is* [leading teams, where there is] *lack of professionalism at work* (E25B).	*Leadership challenges, related to promoting people's involvement. Involving them with the improvements that the hospital needs, being a good leader* (E9B).

*UHB = University Hospital in Brazil; †UHP = University Hospital in Portugal; ‡AHB = Accredited Hospital in Brazil; §AHP = Accredited Hospital in Portugal; ‖University Hospital; ¶Accredited Hospital.

DISCUSSION

This mixed-methods research proved to be adequate, making it possible to characterize nurse-managers' work and to identify the main challenges, showing the relevance of this work and the gaps for its qualification.

The results show that, among the management areas in the work performed by nurses, planning was the most significant in all hospitals, with the exception of the university hospital from Portugal. When analyzing the data connection of the QUAN and qual stages, it was verified that planning is very much performed. However, in the accredited hospitals, challenges were not mentioned in its implementation and, in the university hospital, difficulties were recognized in carrying out and executing planning. This can be interpreted in two ways: planning is carried out routinely by nurse-managers without significant difficulties; or planning consists of an institutional prescription, mentioned by the nurse-managers when asked about the activities they carry out in their work routine.

A number of studies show the importance of developing the competencies required to carry out management and leadership in Nursing, with emphasis on planning the care and management actions[1–2,17], corroborating what was found in this study. However, unlike the finding in this research, planning is still a challenge, as mentioned in the literature[8,18–19]. In the management field, planning is an activity considered of great importance, representing a foundation for the teams' good performance and recognition of the work performed by nurse-managers[2,8,18]. Frequently coordinated by nurses, planning is a priority and a relevant initiative for adequate performance; however, in many health institutions, the culture of evaluating results is still incipient[17].

People management involves from the development of professionals, so that they act with a focus on improving performance to meet the patients' needs, to the provision of adequate staffing for safe and quality care[4,20]. In the qual stage, people management proved to be the largest challenge for nurses, especially with regard to conflict management and shortage of professionals. Some studies highlight the impacts of the unavailability of an adequate number of Nursing professionals, with implications for patient safety, quality of the services, the health and satisfaction of the professionals themselves, and the expansion of access to health[3,6,20–21].

In people management, the importance of permanent education and training in the use of technologies is evident, as well as facing the challenges of promoting friendly and motivating practice environments[6,22]. Interpersonal conflicts are considered challenges in managerial work, as they compromise care effectiveness, especially when they are not worked on in a way that favors growth of the team. Assertive strategies are required for conflict management, in addition to reasserting the importance of leadership as a management skill[6–7,12,17,22].

In this research, the leadership area presented lower mean values in the Portuguese university and accredited hospitals. Although in charge of nurses, leadership was barely mentioned as a challenge. This finding differs from the broad debate found in the literature about the importance of leadership, types of leadership and their relationship with conflict management. Participatory management and leadership that stimulate people's potential contributes to producing job satisfaction and promoting positive transformations in the hospital practice context[6,17,19,22].

In addition, there are gaps in the identification and assessment of effective interventions for the development of leadership skills among hospital nurses; however, the evidence suggests that interventions aimed at promoting nurses' leadership are complex, requiring that the cognitive, interpersonal and intrinsic competencies be addressed, as well as psychological empowerment, emotional intelligence and critical reflexivity skills[23]. In this direction, institutions need to invest in programs to develop this competence in nurses, representing a differential strategy for management advances.

In the management of care processes, the mean values indicate that nurses carry out activities with the challenge of reconciling joint activities related to management and care. The mixed findings show that nurses recognize that managing care processes involves all actions related to direct care

provided to the users and the assessment of care needs, with a view to safe and good quality care, as well as actions to calculate the required numbers in terms of workforce and planning, and that it should be aligned with other performance areas, such as people management and management of materials[3,11,24–25]. Ineffective management of care processes contributes to nurses' work overload, makes it difficult to carry out care activities and negatively impacts care safety and quality[3–4,20,26].

Management of care processes is also influenced by the technologies present in the work routine. In this study, it was found that the systems operating in the researched hospitals do not have interoperability, impairing the transformation of data into information and, in some situations, compromising the generation of indicators that can guide the decisions made by managers and by clinical leaders[26]. The large amount of data generated and their non-application in the routine makes professionals understand technology as an element that hinders the work process.

Nurses' participation in management of materials was also significant in this study, with higher mean values in the Portuguese hospitals. The main challenges are related to lack of materials required for assistance in Portugal and to difficulties inoperability and effectiveness of the digital technologies in Brazil. Nurses' role in management of materials is broad, involving the process of planning and providing the materials required for operation of the hospital, quality control and evaluation of the acquisition and distribution processes of these materials to the care sectors[27]. Another study records that material shortages constitute a problem with repercussions on management of health services, with a significant impact on some sectors of the hospital, such as the Surgical Center and the Central Sterile Supply Department (CSSD), generating cancellation of surgeries and negative impacts for the patients[28].

In relation to quality management, the accredited hospital in Brazil has the highest mean value, followed by the university and accredited hospitals in Portugal. The concern with quality in accredited hospitals corroborates the results of a survey carried out with 901 health professionals in Saudi Arabia, which infers that accreditation contributes direct improvements to the work process due to standardized requirements[29]. However, the benefits in the care or administrative/strategic dimensions are still little evidenced both nationally and internationally, signaling the need for studies that specifically identify improvements related to the quality management system[18,30].

The study sheds light on the challenges faced by nurses in hospital management at the national and international levels, contributing to critical thinking about the practice in this important dimension of nurses' work. Knowing what to do and its challenges is fundamental for the transformation process, with a view to the quality and safety of health and nursing care. It is also emphasized the importance of continuous learning for the qualification of nurse-managers' everyday activities.

As study limitations, it can be considered that the research was conducted in a scenario where the management practice is strongly valued, as they are high-quality hospitals, such as accredited and university ones, which are more sensitive to using management tools for the qualification of care and institutional results, as well as elaboration of the instrument by the researchers, which has limits, with its validation in other studies as an interesting prospect. Even so, significant gaps and deficits were found, indicating that more significant problems may be present in the management work carried out by nurses in other scenarios. A better understanding of the managerial role of nurses and their challenges can be obtained by carrying out similar studies in other care realities.

CONCLUSION

The study shows that the main challenges in management, among nurses in the researched scenarios, were recorded in the areas of people management, management of care processes and management of materials. People management was of great relevance, especially related to conflict management and to shortage of professionals, which meets the need to invest in planning and leadership, as also revealed by the findings. The failure to identify challenges in carrying out the planning activities instigates new studies, due to its relevance for the quality and safety of health and nursing care. Structural deficiencies and the professionals' lack of knowledge in the management field also comprise the scenario to be faced. The results found contribute to critical thinking about management with the potential to support transformative actions, in order to clarify nurses and institutions about the focus of educational and management strategies.

Integration of the results in a mixed-methods research study proved to be adequate, making it possible to show that the work developed by nurses in the hospital management scope is complex, highly relevant, and requires the development of necessary competencies for its adequate performance.

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