



Master's dissertations in Rehabilitation Nursing at the Coimbra Nursing School (2010–2024): A bibliometric study

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ABSTRACT

Introduction: The Master's Programs in Rehabilitation Nursing at the Coimbra Nursing School have been running since 2009/2010. Analyzing the knowledge generated can support the re-definition of research topics and methodologies, enhancing the scientific, technical, and human competencies of rehabilitation nurses.

Objectives: To identify and characterize master's theses in Rehabilitation Nursing completed between 2010 and 2024.

Methods: Bibliometric study based on documentary analysis and descriptive statistics of 101 theses completed across twelve Master's Programs in Rehabilitation Nursing editions, available online and in institutional libraries.

Results: Most theses focused on "Management" (26.8%). The most frequent emerging research area was "Effectiveness of Rehabilitation Nursing Interventions" (36%), and the most frequent priority area was "Healthy Lifestyles" (23.5%). The most common keyword was "Rehabilitation Nursing" (28.05%). The most frequently used theoretical model was Orem's Self-Care Theory (44.7%). Quantitative methodological approaches (62.4%) and descriptive studies (45.5%) predominated. Among productivity indicators, the theses themselves (63.5%) and oral communications at scientific events (38%) were the most frequent.

Conclusion: The characterization of these theses highlights the research competencies of students and faculty. Greater scientific dissemination and the reinforcement of evidence-based practice are recommended to bridge the gap between research and clinical practice.

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RESUMO

Introdução: Os cursos de mestrados em Enfermagem de Reabilitação funcionam na Escola Superior de Enfermagem de Coimbra desde 2009/2010. Uma análise e reflexão do conhecimento gerado e desenvolvido, pode sustentar a adaptação e redefinição do objeto de estudo e metodologias usadas, para melhorar as competências científicas, técnicas e humanas dos enfermeiros de reabilitação.

Objetivos: Identificar e caracterizar as dissertações apresentadas para obtenção do grau de mestre em Enfermagem de Reabilitação, entre 2010 e 2024.

Metodologia: Estudo bibliométrico, com análise documental e análise estatística descritiva, de 101 dissertações realizadas no âmbito de 12 cursos de mestrados em Enfermagem de Reabilitação, disponíveis online e impressas nas bibliotecas institucionais.

Resultados: A maioria das dissertações incidiu sobre a “Gestão” (26,8%). A área de intervenção em investigação “emergente” mais frequente, foi a “Efetividade das intervenções do Enfermeiro de Reabilitação” (36%), e a “prioritária” mais frequente foi a “Estilos de vida saudáveis” (23,5%). A “Enfermagem de reabilitação” foi o descritor/palavra-chave mais utilizado (28,05%). O modelo teórico mais seguido foi a Teoria do Autocuidado (n = 33; 44,7%). O referencial metodológico quantitativo (n = 63; 62,4%) e os estudos descritivos foram os mais utilizados (n = 51; 45,5%). As 101 dissertações (63,5%) e comunicações orais (n = 22; 38,0%) são os indicadores de produtividade mais frequente.

Conclusão: A caracterização das dissertações realizadas no período 2010-2024 revelam capacidades e competências de investigação dos estudantes e docentes/investigadores envolvidos. Sugere-se maior divulgação/produtividade dos estudos realizados, e uma prática baseada na evidência, como estratégia de minimização de lacunas entre a investigação e a prática clínica.

Introduction

Over recent decades, both nationally and internationally, nursing education has undergone several phases of evolution, driven by technological and scientific advances in health sciences. In Portugal, nursing education progressed from the bachelor's degree in the 1970s to the initiation of the doctoral program in nursing at the University of Lisbon in 2004.¹

In 1983, the Post-Basic Nursing School Dr. Ângelo da Fonseca was established, and in 1984, the first Rehabilitation Nursing Specialization Course (RNSC) commenced at the same school in Coimbra. With the integration of nursing education into the national education system at the polytechnic higher education level, Specialized Higher Education Courses (SHEC) were created and delivered in higher nursing schools.¹ These courses already included a research methodology curricular unit and required the development of an empirical study and a research report.

Since then, these programs have undergone several modifications, with increasing demands on the research component to clarify the object of study and demonstrate health gains resulting from professional practice, as defined by the Regulations of the Specific Competencies of the Specialist Nurse in Rehabilitation Nursing (SNRN), approved and updated by the Portuguese Nurses' Association (Ordem dos Enfermeiros [OE]).^{2,3}

The Master's Degree Programs in Rehabilitation Nursing (MDPRN) were launched in the academic year 2009/2010,

following authorization by the Ministry of Science, Technology, and Higher Education, and initiated at the Coimbra Nursing School (ESENfC), created through the merger of Dr. Ângelo da Fonseca Nursing School and Bissaya Barreto Nursing School.⁴

The master's degree is awarded to students who demonstrate advanced knowledge, research capacity, and the ability to solve complex problems, even with limited information. It requires the integration of knowledge in decision-making with ethical and social responsibility, the ability to propose solutions and make judgments, and effective communication with both specialized and non-specialized audiences. The degree also promotes lifelong learning and may be conferred within a specialty and subdivided into specific areas.⁵

The MDPRN aims to develop scientific, technical, and human competencies to enable nurses to provide RN care to individuals with disabilities, activity limitations, or participation restrictions, in different contexts and across the life span, to promote rehabilitation and social reintegration. This is based on the competencies defined by the OE for RN and the Dublin descriptors for the master's academic degree.^{4,6}

Students admitted through a specific selection process, with a defined number of vacancies, could simultaneously enroll in both programs, which differed in their curricula in terms of semesters and European Credit Transfer and Accumulation System (ECTS). The Specialization Course for Rehabilitation Nursing Specialists (SCRNS) comprised 90 ECTS over three semesters, while the MDPRN consisted of

120 ECTS over four semesters. The additional fourth semester of the MDPN (30 ECTS) included the final research component, where students could choose between a dissertation, a project work, or an internship with a final report. The SCRNS awarded the title of RN Specialist, while the MDPN awarded the academic degree of Master in RN.^{4,6}

The MDPN curriculum has undergone several updates and restructurings in recent years, particularly in 2014, 2016, and 2017, with its latest version published in 2022. These curricular changes, especially in 2016, may have influenced the development of research competencies, specifically regarding the final research work in the fourth semester, which is essential for the master's degree.⁶

In 2015, the OE Rehabilitation Nursing College defined research priorities to foster the development of RN as a discipline. Some areas were identified as "emerging," including: (i) physiological processes – autonomous interventions in motor and respiratory function; (ii) adaptive processes in self-care dependency in home care settings; and (iii) effectiveness of RN interventions.⁷

During this period, efforts were made to integrate RN research projects, including dissertations, into funded and structured research projects, particularly within the Health Sciences Research Unit: Nursing (UICISA:E) at ESEnFC. This integration aimed to connect different levels of research, increase scientific productivity, and expand the body of knowledge in RN.⁸

The knowledge generated and disseminated through master's dissertations, in articulation with other research projects, may act as a driver for scientific development in nursing, contributing to more competent and research-aware professionals, as well as improving teaching quality and clinical practice.^{6,9}

Identifying the main characteristics of MDPN dissertations over the past 14 years, in alignment with OE research priorities, the Professional Nursing Practice Regulation (REPE), the Quality Standards for Specialized Rehabilitation Nursing Care, and the Specific Competencies for RN Specialists, may reveal gaps requiring analysis. Such findings can assist coordinators, supervisors, co-supervisors, and students in understanding what has been produced, reflecting upon it, and defining strategies for improving the teaching-learning process.^{1-3,7,10,11}

These insights may also help refine and improve the MDPN, particularly concerning the scientific development of RN, by redefining research objects and adapting appropriate methodologies to address citizens' health needs, thereby improving competencies and clinical practice.^{2,3,10,12}

Advancing knowledge requires Rehabilitation Nursing Specialists and Masters to continuously incorporate research findings into their practice, develop evidence-based interventions focused on nursing-sensitive outcomes, and participate in research projects aimed at expanding knowledge and competencies within their specialization.²⁻⁵

To date, no comprehensive knowledge is available about the totality and particularities of the MDPN dissertations completed between 2010 and 2024. For this reason, the teaching team of the Department of Rehabilitation Nursing

at ESEnFC considered it necessary to gather and organize information on the studies produced in this academic context. In particular, the patterns of research methodologies adopted, the productivity achieved across the different editions, and the thematic areas most frequently explored remain unknown. This mapping is especially relevant in the context of the curricular reforms implemented between 2014 and 2022, which underscore the need to align advanced training with contemporary scientific and care-related challenges. The general objective of this study is to identify and characterize the dissertations of the MDPN completed at ESEnFC between 2010 and 2024. The specific objectives are: (i) to identify the number of completed dissertations; (ii) to identify the thematic axes and the emerging and priority research areas addressed; (iii) to identify and describe the academic degrees and institutions of supervisors, co-supervisors, and examiners involved; (iv) to analyze the keywords; (v) to locate the contexts in which the studies were carried out; (vi) to identify and describe the theoretical and methodological frameworks used; (vii) to identify and describe the indicators of scientific productivity; (viii) to identify and describe the ethical procedures reported; and (ix) to analyze the integration of dissertations into research projects registered at UICISA:E.

Methods

This bibliometric study was conducted between March and May 2025. Bibliometrics enables the extraction of information from written communication - in this case, master's theses in RN - and provides evidence to support the development of scientific and technological strategies for the field of RN. Written documents resulting from scientific activity can serve as indicators of the development of a specific knowledge area and help researchers identify scientific advances and areas requiring greater research investment.^{10,12}

Inclusion criteria comprised MDPN theses completed at the ESEnFC between 2010 and 2024, available either digitally in the ESEnFC repository or as printed copies in the institutional library, and containing data relevant to the variables under study. Exclusion criteria included master's theses from other areas, absence of the required data, or incomplete data.^{10,12}

A documentary analysis technique was used for data collection and analysis.¹³ Initially, all MDPN theses produced between 2010 and 2024 were mapped and listed. Data were retrieved from online documents in the ESEnFC scientific repository and printed theses in institutional libraries. Information was extracted from the cover, abstract, main text, and appendices.

The checklist included several variables, namely: number of students enrolled per course; number of completed dissertations and year of completion; supervisors, their academic degrees and institutions, as well as co-supervisors and examiners involved; emerging and priority research areas; thematic axes; descriptors/keywords; research contexts; nursing theoretical models; methodological frameworks;

type of sampling; data collection instruments; indicators of scientific productivity; ethical considerations; and integration into research lines and projects.

Data were analyzed by two independent researchers using a structured checklist to ensure uniformity and quality control. The checklist included variables such as year of completion, thematic area, theoretical model, methodological framework, sampling method, data collection instruments, ethical procedures, and indicators of scientific productivity.

The checklist was content-validated by two independent nursing research experts before data collection. A pilot test with five theses was conducted, leading to adjustments for clarity and applicability. Each thesis was analyzed independently by two researchers, and disagreements were resolved through discussion until consensus, ensuring reliability of the analysis.¹⁴

Data synthesis and tabulation were performed using Microsoft Excel® (version 2016). Descriptive statistical analysis was conducted to calculate frequencies and percentages for the distribution of theses and evaluated variables.

Although the MDPRN dissertations are considered public documents, ethical procedures were followed to ensure confidentiality. Authorization to access the published data was requested from the institution's board. The data collected and disseminated did not allow the identification of the authors or of those involved in the development of the dissertations. All individuals responsible for handling the data complied with data protection principles, ensuring the anonymity of both the authors and the members involved in the development process. The data were stored on a secure server with restricted access to the research team. The study was approved by the Ethics Committee of UICISA: E (ESENfC) (Approval nº P1147_03_2025).

Results

A total of 289 students were enrolled in the twelve MDPRN at the ESENfC between the academic years 2010 and 2024. The first MDPRN cohort had the highest number of enrolled students (n = 39; 13.5%), whereas the third MDPRN cohort had the lowest (n = 15; 5.1%).

Over the same period, 101 master's theses were completed. The distribution of theses by cohort (Figure 1) shows that the highest numbers were concentrated in the 1st, 2nd, and 5th MDPRN editions, with 24 theses in the first course (23.7%), 13 in the second (12.7%), and 11 in the fifth (10.9%). The lowest number of completed theses was observed in the 6th MDPRN (n = 3; 2.9%).

Overall, only 34.9% (n = 101) of the students enrolled in the MDPRN programs during the 2010-2024 period (n = 289) developed and completed a master's dissertation. The highest completion rates were observed in the 1st MDPRN (n = 24; 61.5%) and 5th MDPRN (n = 11; 61.1%), while the lowest were recorded in the 6th MDPRN (12.5%) and 12th MDPRN (16%).

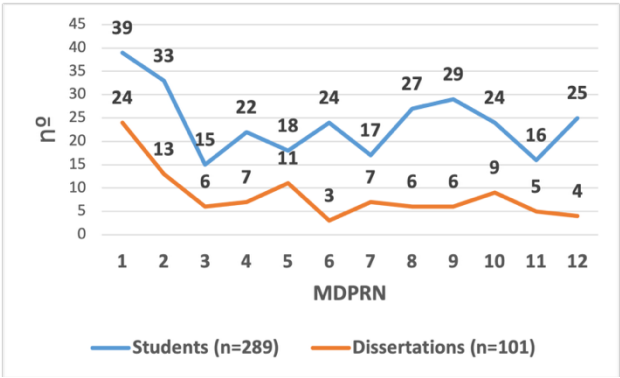


Figure1. Enrolled students versus completed dissertations in MDPRN, 2010–2024.

The overall mean time between the submission of the final report and the public defense of the dissertation was 66.7 days. The 9th MDPRN cohort recorded the highest mean (137.6 days), whereas the 5th MDPRN had the lowest (36.6 days).

The mean time between the standard deadline for completion and the date of the final dissertation defense was 329.1 days. The 7th MDPRN had the highest mean (536.3 days), while the 3rd MDPRN had the lowest (76.2 days).

The dissertation topics were distributed across eight thematic axes (Table 1). Most topics fell under the thematic axis “Management” (n = 27; 26.8%), followed by “Orthotraumatological Processes” (n = 24; 23.8%). The least developed themes were “Teaching, Learning, and Training” (n = 5; 4.9%) and “Cardiorespiratory Processes” (n = 6; 5.9%). No dissertations were classified under the thematic axis “Research and Development”. Within the thematic axis “Specific Contexts and Conditions,” the most frequent contexts were Pediatrics, Intensive Care, and Hemodialysis.

Table 1. Thematic Axes of MDPRN dissertations, 2010-2024.

Nº	Thematic Axes	MDPRN												Total	
		1	2	3	4	5	6	7	8	9	10	11	12	N	%
1	Cardiorespiratory Process	2	1	-	-	1	-	-	-	-	1	-	1	6	5.9
2	Neurological Process	2	6	1	-	4	-	-	1	-	1	1	1	17	16.8
3	Orthotraumatological Process	8	3	1	2	2	-	2	1	1	1	1	2	24	23.8
4	Innovation and Technology	-	-	-	-	-	2	1	2	1	-	1	-	7	6.9
5	Specific Contexts/Conditions ^(a)	3	1	2	3	-	-	1	1	1	2	1	-	15	14.9
6	Management	8	1	2	2	2	1	3	1	3	4	-	-	27	26.8
7	Teaching, Learning, and Training	1	1	-	-	2	-	-	-	-	-	1	-	5	4.9
8	Research and Development	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
		24	13	6	7	11	3	7	6	6	9	5	4	101	100

(a)1st MDPRN: Dementia - 2; a2 - Pediatrics; 2nd MDPRN: a1 - Intensive Care; 3rd MDPRN: a1 - Intensive Care; a2 - Hemodialysis; 7th MDPRN: a1 - Vascular; 8th MDPRN: a1 - Hemodialysis; 9th MDPRN: a1: Elderly/Community; 10th MDPRN: a1: Pediatrics; a2: Swallowing

The dissertations were distributed across research intervention areas classified as “emerging” and “priority” by the OE.⁷ The most frequent emerging research area was “Effectiveness of Rehabilitation Nursing Interventions” (n = 18; 36%) (Table 2). The most frequent priority research area was “Healthy Lifestyles (ergonomics and physical exercise)” (n = 12; 23.5%).⁷ No dissertations were classified

under the priority areas “Promotion of Active Ageing” or “Safe Staffing Levels in Rehabilitation Nursing.”

Table 2. Most Frequent “Emerging” and “Priority” Research Intervention Areas in MDPRN dissertations, 2010–2024.

Nº	Emerging Intervention Areas	MDPRN												TOTAL	
		1	2	3	4	5	6	7	8	9	10	11	12	N	%
1	Motor function	3	-	-	1	2	1	2	1	-	-	1	-	11	22.0
2	Respiratory function	1	1	-	-	1	-	1	-	-	-	-	1	5	10.0
3	Dependence home self-care	2	-	1	2	-	-	1	1	2	6	-	1	16	32.0
4	Effectiveness of RN Interventions	6	5	2	-	1	1	1	1	-	-	1	-	18	36.0
Subtotals		12	6	3	3	4	2	5	3	2	6	2	2	50	100
Nº	Priority Intervention Areas	MDPRN												TOTALS	
		1	2	3	4	5	6	7	8	9	10	11	12	N	%
1	Promoting active aging	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
2	Training of individuals and/or Informal caregivers	4	1	-	2	1	-	1	1	-	-	1	-	11	21.5
3	Autonomous Intervention of RN in cardiac function	-	-	-	-	-	1	-	-	1	1	-	-	3	5.8
4	Autonomous Intervention of RN in cognitive function	1	-	-	-	-	-	-	-	-	1	1	-	3	5.8
5	Autonomous Intervention of RN in Sensory function and pain	-	1	2	-	2	-	1	-	1	-	-	1	8	15.6
6	Safe of RN staffing	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
7	Autonomous Intervention of RN for bowel/bladder elimination	-	1	-	-	-	-	-	-	-	-	-	-	1	1.9
8	Autonomous Intervention of RN in swallowing	-	-	-	-	-	-	-	-	-	1	-	-	1	1.9
9	Quality standards of RN	1	-	-	2	1	-	-	-	1	-	-	-	5	9.8
10	Professional development RN	1	1	-	-	2	-	-	-	-	-	1	-	5	9.8
11	Healthy Lifestyles (Ergonomics and Physical Exercise)	4	3	1	-	1	-	-	1	1	-	-	1	12	23.5
12	Scale validation	1	-	-	-	-	-	-	1	-	-	-	-	2	3.9
Subtotals		12	7	3	4	7	1	2	3	4	3	3	2	51	100

A total of 139 distinct descriptors/keywords were identified. The most frequently used were “Rehabilitation Nursing” (n = 39; 38.6%), “Rehabilitation” (n = 26; 25.7%), “Nursing” (n = 13; 12.8%), “Functional Capacity” (n = 7; 6.9%), “Quality of Life” (n = 6; 4.3%), “Self-care” (n = 6; 4.3%), and “Dependency” (n = 5; 3.5%).

Most faculty members and researchers involved in dissertation supervision and defense were PhD holders, both among supervisors (n = 60; 59.4%), co-supervisors (n = 21; 63.7%), and examiners (n = 95; 94.5%). The highest proportion of PhD holders was observed among dissertation defense examiners (94.1%).

Regarding the institutions of examiners participating in MDPRN dissertation defense boards between 2010 and 2024, representatives from 13 nursing schools from different Portuguese regions were involved. The majority were faculty from the ESEnC (n = 29; 28.7%), followed by the Lisbon Nursing School (ESEL) (n = 18; 17.8%) and the Health School of Viseu Polytechnic Institute (ESS-IPV) (n = 16; 15.8%). Notably, there was international participation from two Brazilian institutions: the University of São Paulo (2 defenses) and the University of Fortaleza (1 defense), conducted online.

The most frequent research context was hospital inpatient care (n = 41; 40.6%), whereas academic/school settings were the least common (n = 13; 12.9%).

Approximately half of the MDPRN dissertations (n = 44; 43.5%) lacked reference to theoretical models. Among the 57 dissertations where theoretical models were identified (Table 3), a total of 81 models were registered. The most frequently cited were Dorothea Orem’s Self-Care Theory (n = 33; 44.7%) and Afaf Meleis’s Transitions Theory (n = 28; 34.5%).

Table 3. Distribution of Theoretical Models used in MDPRN dissertations, 2010–2024.

Theoretical Model	MDPRN												TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	N	%
Self-Care Theory	5	2	2	1	4	3	3	4	2	3	1	3	33	40.8
Transitions Theory	5	1	-	-	4	-	3	1	3	7	2	2	28	34.8
Aging Theories	3	-	-	-	-	1	-	-	-	1	1	-	6	7.5
Other Models	1	-	1	1	5	-	-	2	-	2	1	1	14	17.2
Subtotals	14	3	3	2	13	4	8	5	5	13	5	6	81	100

Most dissertations followed a quantitative methodological framework (n = 63; 62.4%), followed by mixed methods (n = 21; 20.8%). The least used methodological approach was qualitative (n = 17; 16.8%). Quantitative (n = 40; 65.6%) and qualitative (n = 13; 76.4%) approaches were more frequent in the first six MDPRN editions, whereas mixed methods were proportionally distributed across all twelve courses.

Regarding the types of studies developed (Table 4), almost half were descriptive studies (n = 51; 45.5%), followed by quasi-experimental studies (n = 16; 15.8%). Within the mixed methods framework, the most common type was literature review (n = 11; 9.8%), whereas methodological studies for instrument validation were the least frequent (n = 3; 2.6%). Some mixed-method studies included more than one study type, which explains the difference between the total number of study types (n = 112) and the total number of dissertations (n = 101). In qualitative research, phenomenological studies were the only type used (n = 9; 8.0%).

Table 4. Distribution of study types in MDPRN dissertations by course, 2010–2024.

Study Type	MDPRN												TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	N	%
Quantitative (n = 61; 60.4%)														
Quasi-Experimental	7	3	-	-	-	1	2	1	-	1	1	-	16	14.2
Pre-experimental	1	1	1	-	1	-	-	-	-	-	1	-	5	4.4
Observacional	1	-	-	-	-	-	1	1	-	-	1	-	4	3.6
Descriptive	9	8	2	4	9	1	1	3	5	5	2	2	51	45.6
Qualitative (n = 17; 16.8%)														
Phenomenological	4	-	-	2	-	-	1	-	1	1	-	-	9	8.1
Mixed (n = 23; 22.8%)														
Sist.Literat.Review	2	1	3	-	-	1	1	1	1	-	-	-	10	8.9
Scoping review	-	-	-	-	-	-	-	-	1	2	-	2	5	4.4
Validation Scale	-	-	-	1	1	-	-	1	-	-	-	-	3	2.7
Focus group	-	-	-	-	-	-	-	2	2	2	-	2	9	8.1
Subtotals	24	13	6	7	11	3	7	9	10	11	5	6	112	100

*Some dissertations included more than one type of study, explaining the difference between the total number of studies and the total number of dissertations (n = 101).

The most frequently used sampling method was non-probability sampling, particularly convenience sampling (n = 35; 37.2%), followed by purposive and accidental sampling, both used in the same number of studies (n = 16; 17.0%). Among probability sampling methods, only stratified random sampling was observed (n = 7; 7.5%).

Regarding data collection methods and instruments, quantitative methods predominated (n = 112; 89.6%). The most commonly used quantitative instruments were associated with motor function assessment (n = 23; 20.5%), self-care dependency (n = 23; 20.5%), and quality of life and care management (n = 20; 17.8%). Among motor function assessment instruments, the most frequently used were the Barthel Index (n = 10), Timed Up-and-Go Test (n = 7), Nordic Musculoskeletal Questionnaire (n = 6), and the System Usability Scale (n = 5). For qualitative data collection, interviews were the predominant method (n = 10; 76.9%).

In terms of overall scientific productivity indicators, 159 indicators were recorded. Most originated from the publication of the 101 dissertations (63.5%), available in both digital and printed formats. The highest number of indicators was associated with the 1st MDPRN (n = 37; 23.7%), whereas the lowest was observed in the 6th MDPRN (n = 4; 2.5%). Among other indicators, oral communications at scientific events were the most frequent (n = 22; 38.0%), followed by book chapters (n = 17; 29.4%) and journal articles (n = 9; 15.6%).

Regarding ethical procedures, the most commonly reported were informed consent (n = 68; 38.2%) and approval by ethics committees (n = 65; 36.6%). The least frequent was obtaining permission from instrument authors (n = 3; 1.6%). The highest number of ethical procedures was recorded in the 1st MDPRN (n = 33; 18.5%), followed by the 2nd and 3rd MDPRN (both n = 21; 11.8%), and the 5th MDPRN (n = 20; 11.2%). The lowest number was observed in the 6th MDPRN (n = 4; 2.3%).

The integration of dissertations into research lines and structured projects of the UICISA: E was progressive, with a total of 87 dissertations identified. Most were integrated into Research Line A: "Well-being, Health, and Disease", specifically within Structured Project (SP) A1: "Quality of life, needs, and promotion of autonomy in people undergoing health transitions" (n = 58; 66.7%), followed by SP A2: "Promotion of mobility to prevent functional decline and deconditioning in hospitalized older adults and acutely ill adults" (n = 9; 10.4%). Additionally, 8 dissertations (9.3%) were integrated into Research Line B: "Health Systems and Organizations", specifically in SP B1: "Outcomes of Nursing Care: Quality and Effectiveness."

Discussion

The master's degree is awarded to individuals who demonstrate advanced knowledge acquisition from the first cycle of studies, the ability to apply knowledge in original ways within complex and multidisciplinary contexts, problem-solving competence, knowledge integration, ethical decision-making, effective communication

with diverse audiences, and autonomy in lifelong learning. It may include a specialty and specific areas of expertise, when applicable.^{4,5}

The MDPRN aims to develop scientific, technical, and human competencies, preparing students to provide specialized care to individuals with functional limitations and disabilities in various contexts and life stages, thus promoting their rehabilitation and social reintegration. The program is based on the competencies defined by the OE and on the Dublin Descriptors for a master's degree.³⁻⁵

Research conducted in master's dissertations and projects in RN strengthens scientific output in the field, promoting more qualified professionals aware of the importance of scientific knowledge for the advancement of nursing education and practice.^{1,5}

However, the results of this study show that the achievement of these competencies was not consistently reflected in the dissertations, particularly in the early years of the program. This gap between the normative frameworks and the actual research practice highlights the need to strengthen supervision mechanisms and to integrate students more systematically into structured projects, ensuring that curricular objectives are effectively translated into scientific output with clinical applicability. Against this background, this bibliometric study aimed to identify and characterize the Nursing dissertations completed at the ESEnFC between 2010 and 2024, providing insights into their evolution across different dimensions. The findings are analyzed and discussed in the following sections in light of educational and professional developments.

Number of dissertations completed vs. number of enrolled students

The discrepancy observed between the number of students enrolled in the 12 editions of the MDPRN (n = 289) and the number of completed dissertations (n = 101), with only 34.9% of enrolled students choosing to complete a master's dissertation, may be related to the structure of the master's program, which comprised four semesters.⁴ The first three semesters enable the acquisition of competencies required to obtain the title of SNRN.^{2,3} Many students opted only for the three-semester program due to the lack of impact of the master's degree on career progression and salary structure, which discouraged investment in the research component.^{4,5} This situation persisted despite curriculum reforms and the introduction of alternative options dissertation, final internship with report, or project work.⁶ The COVID-19 pandemic (2019–2021) further disrupted normal teaching-learning processes.

The latest curriculum reform (2022) allowed students to complete the master's degree in three semesters (90 ECTS), with the research component distributed across the second and third semesters. Nevertheless, some aspects regarding the quality and rigor of the research conducted under this new structure merit further consideration and should be evaluated in due course.⁶

Time periods between the different phases of dissertation development

The average time between dissertation submission and public defense is administratively reasonable, meeting legal deadlines (up to 90 days). However, the time between the completion of the course and the public defense exceeded the regulatory deadline, although extensions were granted to encourage students and supervisors to complete the research projects.⁹

Descriptors/Keywords

A total of 194 different descriptors/keywords were identified, with "rehabilitation nursing," "rehabilitation," and "nursing" being the most frequent. All descriptors align with DeCS/MeSH, favoring database indexing and adherence to OE research priorities.⁷ Since 2013, keywords have been included in English, increasing international visibility.^{15,16} A more rigorous selection of descriptors based on reference publications is recommended to further enhance the visibility and impact of dissertations.

Priority research areas

Fifty dissertations addressed emergent research areas defined by OE,⁷ mainly "Effectiveness of Rehabilitation Nursing interventions" and "Self-care dependency at home," while 51 focused on priority areas, such as "Healthy lifestyles" and "Empowerment of the person/informal caregiver".⁷ These conclusions are in line with the strategic priorities of the profession during the period under analysis, contributing to the development of knowledge in Rehabilitation Nursing, particularly in assessment, interventions, outcomes, and the organization of health systems.^{2,3,7} Looking ahead, it is necessary to follow the guidelines of the OE regarding the current priority areas for research in RN,⁸ as well as the present health priorities,¹⁷ in order to respond to the real needs of RN care for citizens.

Thematic areas

The most common thematic areas were "Management" and "Orthotraumatological processes," reflecting the researchers' interest in improving the quality of care and addressing prevalent and disabling health conditions in Portugal.^{4,5,11} It is considered essential that master's graduates in Rehabilitation Nursing continuously integrate research findings into practice, thereby promoting evidence-based care and the ongoing development of professional competencies.^{2,3,18}

Supervisors, co-supervisors, and examination board members

Most supervisors, co-supervisors, and examination board members held a doctoral degree. All participants complied with legal requirements, ensuring academic rigor in supervision and assessment processes.⁹ Contributions came from 13 nursing schools across Portugal, with additional

participation from two Brazilian universities, enriching the evaluation process through international collaboration. Future editions of the program should continue to ensure highly qualified examiners and supervisors, while also expanding opportunities for international collaboration, which can further enrich the quality and diversity of scientific output.^{14,19}

Research contexts

The most frequent research contexts were hospital inpatient settings, which are aligned with the professional interests of the students, based on the assumption that most rehabilitation nursing care is provided in hospital contexts, supervisors' research lines, OE research priorities, and national health program priorities.^{7,8,17} Diversifying research contexts, particularly in community and primary care settings, could broaden the applicability of findings and align research more closely with population health needs.

Theoretical models in nursing

Approximately 43.5% of dissertations lacked theoretical models, a methodological weakness particularly evident between 2010 and 2014. The most frequently cited frameworks were Orem's Self-Care Theory and Meleis' Transitions Theory, which are often considered particularly suited to Rehabilitation Nursing.^{18,20,21} This finding may be related to a lower sensitivity among students and supervisors, in the early years of this training, to the importance of theoretical reference frameworks for clinical practice - fundamental for interpreting phenomena and health problems and for guiding care decisions. Nevertheless, this situation appears to have improved from the 4th CMER onward. Theoretical frameworks are essential for conceptual alignment, hypothesis formulation, variable selection, and the interpretation of results, thereby strengthening scientific consistency. Their absence reduces the capacity to produce innovative research and transferable evidence for clinical and educational contexts.^{18,20,21} Future dissertations should explicitly articulate the selected theoretical framework and its operationalization (key constructs, variables, and outcome measures) to enhance transferability.

Methodological frameworks

The methodological frameworks used are associated with the development and evolution of research in nursing in general, and in rehabilitation nursing in particular, observed throughout the period 2010-2024.^{14,22,23} The research paradigms represent the assumptions and values that guide research, directing the inquiry and the decisions made to address the problems or questions under investigation. Rehabilitation nurses, together with their supervisors, should therefore be adequately prepared to make informed and appropriate decisions during the planning and design phase of research projects.^{14,22,23} In this regard, future training should place greater emphasis on methodological literacy, enabling students to justify their choices more clearly and to align them with international standards of scientific rigor.

Sampling type

Non-probability sampling was the most common approach, mainly convenience sampling, which was certainly the most appropriate option considering the problems under study, the methodological approaches selected, and the time constraints inherent to the training context. However, this choice limits the generalization of results to the study population. Sampling strategies must be consistent with the methodological design, but it is suggested that future research should increasingly consider multicenter studies with randomized samples, which could minimize the risks of bias and strengthen the external validity of the findings.^{14,22,23}

Data collection instruments

Quantitative data collection instruments, particularly for assessing motor function, dependence for self-care and quality of life, predominated. Most of the instruments were validated and are aligned with the guidelines of the OE, ensuring the reliability and rigor of the data collected,²⁴ an aspect that should be preserved by all researchers involved in the research process.^{14,19,23} Going forward, it will be important not only to maintain this alignment but also to expand the use of standardized and internationally validated instruments, which would facilitate comparison across studies and strengthen the cumulative evidence base in RN.²²

Indicators of scientific productivity

Scientific productivity remains limited, with the publication of dissertations, which is mandatory, but other indicators, such as the publication of articles, book chapters, and communications, are below the desired level. Factors related to the prevailing research culture, limited incentives, and difficulties in publishing may contribute to this limitation.^{14,22,23,25} However, the progressive qualification of the teaching staff and their greater integration into research projects suggest a more promising future for scientific productivity, which should be actively encouraged within the teaching-learning processes at this level of education.^{18,22,23,25} To strengthen this trajectory, it will be important to foster structured mentoring in scientific writing and to provide institutional support for publication, thereby enabling students and supervisors to disseminate findings more widely and enhance the visibility of RN research.

Ethical consideration

Ethical considerations were evident and adequate, with informed consent and ethics committee approval being the most frequently reported procedures. However, only 1.6% of the dissertations mentioned obtaining explicit authorization for the use of the data collection instrument, raising concerns about intellectual property rights, which must be safeguarded whenever such a requirement exists.^{19,26} Future dissertations should explicitly report the procedures adopted to ensure compliance with intellectual property

rights, thereby reinforcing ethical rigor and transparency in the research process.

Integration into research lines and projects

The integration of dissertations into the research lines and structured projects of UICISA:E was progressive, with 87 dissertations identified as being integrated and registered within larger-scale projects. The integration of dissertations into UICISA:E research lines and structured projects was progressive, with 87 dissertations identified. Most were included in Structured Project A1: "Quality of life, needs, and autonomy promotion in people undergoing health transitions", reinforcing the strategic importance of this area. This aligns with a scoping review (1979–2018), which identified "Health-illness transitions" as the most researched theme in RN.²⁵

In summary, the findings confirm trends already described in the literature and provide new insights that reinforce the disciplinary body of RN, both in scientific production and in clinical practice. Despite limitations, such as missing or inconsistent data in some dissertations, this study offers relevant contributions to understanding the evolution and impact of MDPN, emphasizing the role of research as a structural element of advanced practice in nursing.^{1,5,6,8}

Conclusion

The objectives of this study were largely achieved, enabling an in-depth analysis and reflection on the 101 Master's Dissertations in RN developed at the ESEnC between 2010 and 2024. During this period, several legislative, regulatory, structural, and methodological changes occurred, requiring adaptations from all stakeholders in the teaching-learning processes and impacting the development of specific competencies among RN.

The most frequently studied topics were the effectiveness of RN interventions and healthy lifestyles. A low integration of theoretical models was observed, with a predominance of quantitative methodologies and descriptive studies. Most dissertations resulted in modest scientific output, primarily oral communications, and were integrated into UICISA: E research lines at ESEnC.

Future directions should include greater alignment with the latest OE research priorities, replication of multicenter studies in diverse contexts, use of randomized sampling and validated instruments, and a stronger emphasis on scientific productivity, particularly through oral communications and publications in indexed journals with impact factors. Periodic reassessment of ongoing master's projects and the promotion of evidence-based practice are essential strategies to minimize gaps between research and clinical practice.

Only through a sustained commitment to research, scientific dissemination, and the integration of findings into clinical practice will it be possible to ensure excellence in RN care and strengthen the recognition of its professionals.

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