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SATISFACTION OF PATIENTS HOSPITALIZED IN CARDIOLOGY AND CARDIOTHORACIC SURGERY WITH REHABILITATION NURSING

SATISFAÇÃO DA PESSOA INTERNADA EM CARDIOLOGIA E CIRURGIA CARDIOTORÁCICA COM A ENFERMAGEM DE REABILITAÇÃO

SATISFACCIÓN DE LAS PERSONAS HOSPITALIZADAS EN CARDIOLOGÍA Y CIRUGÍA CARDIOTORÁCICA CON LA ENFERMERÍA DE REHABILITACIÓN

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RESUMO

Introdução: A satisfação da pessoa com os cuidados de saúde é um indicador central da qualidade assistencial, refletindo-se na adesão terapêutica e nos resultados em saúde. Em contexto hospitalar, a satisfação com os cuidados de enfermagem de reabilitação assume particular relevância, dado o contributo destes profissionais na promoção da funcionalidade e autonomia.

Metodologia: Estudo descritivo, transversal e quantitativo, realizado em serviços de Cardiologia e Cirurgia Cardiotorácica de um hospital do Norte de Portugal. A amostra incluiu 243 participantes (73,3% homens; idade média = 63,9 ± 12,1 anos; média de internamento = 7,5 ± 5,1 dias). Foi aplicado o Questionário de Satisfação com os Cuidados de Enfermagem de Reabilitação (QSEnf-10), validado para a população portuguesa. A escala apresentou consistência interna elevada (α de Cronbach = 0,894).

Resultados: Verificaram-se níveis muito elevados de satisfação global. As dimensões com maior pontuação atribuída na escala de satisfação foram as relações interpessoais (90,9% "muito satisfeito") e o profissionalismo demonstrado (90,5%). A dimensão com menor pontuação atribuída foi o tempo dedicado pelo enfermeiro especialista em enfermagem de reabilitação (78,6% "muito satisfeito"; 20,6% "satisfeito").

Discussão: Os resultados são consistentes com estudos nacionais e internacionais que reportam níveis elevados de satisfação com os cuidados de enfermagem de reabilitação. Contudo, o tempo de intervenção emerge como área de melhoria, apontando para a necessidade de ajustar dotações de especialistas e reforçar a continuidade de cuidados após a alta.

Conclusão: A satisfação das pessoas internadas em cardiologia e cirurgia cardiotorácica evidencia o papel diferenciador dos enfermeiros especialistas em reabilitação, reforçando a pertinência de estratégias centradas na pessoa e na otimização de recursos.

Descritores: Satisfação do doente; Enfermagem em reabilitação; Cardiologia; Cirurgia Torácica; Qualidade da assistência à saúde

ABSTRACT

Introduction: Patient satisfaction is a key indicator of healthcare quality, reflecting adherence to therapy and health outcomes. In hospital settings, satisfaction with rehabilitation nursing care is particularly relevant, given the role of these professionals in promoting functionality and autonomy.

Methodology: A descriptive, cross-sectional, quantitative study was conducted in Cardiology and Cardiothoracic Surgery wards of a hospital in Northern Portugal. The sample included 243 participants (73.3% men; mean age = 63.9 ± 12.1 years; mean length of stay = 7.5 ± 5.1 days). The Questionnaire of Satisfaction with Rehabilitation Nursing Care (QSEnf-10), validated for the Portuguese population, was applied. The scale showed high internal consistency (Cronbach's α = 0.894).

Results: Very high levels of global satisfaction were found. The most valued dimensions were interpersonal relations (90.9% "very satisfied") and professionalism (90.5%). The least valued aspect was the time dedicated by the rehabilitation nurse specialist (78.6% "very satisfied"; 20.6% "satisfied").

Discussion: The results are consistent with national and international studies regarding high satisfaction with rehabilitation nursing care. However, the time dedicated to patients emerges as an area for improvement, highlighting the need to adjust staffing levels and strengthen continuity of care after discharge.

Conclusion: Satisfaction of patients admitted to cardiology and cardiothoracic surgery units highlights the distinctive role of rehabilitation nurse specialists, reinforcing the importance of person-centered strategies and optimization of human resources.

Descriptors: Patient satisfaction; Rehabilitation nursing; Cardiology; Thoracic surgery; Quality of health care

RESUMEN

Introducción: La satisfacción de la persona con los cuidados de salud es un indicador central de la calidad asistencial, reflejándose en la adherencia terapéutica y en los resultados en salud. En el contexto hospitalario, la satisfacción con los cuidados de enfermería de rehabilitación adquiere especial relevancia, dado el papel de estos profesionales en la promoción de la funcionalidad y la autonomía.

Metodología: Estudio descriptivo, transversal y cuantitativo, realizado en los servicios de Cardiología y Cirugía Cardiotorácica de un hospital del norte de Portugal. La muestra incluyó 243 participantes (73,3% hombres; edad media = 63,9 ± 12,1 años; media de días de internamiento = 7,5 ± 5,1). Se aplicó el Cuestionario de Satisfacción con los Cuidados de Enfermería de Rehabilitación (QSEnf-10), validado para la población portuguesa. La escala presentó una elevada consistencia interna (α de Cronbach = 0,894).

Resultados: Se verificaron niveles muy elevados de satisfacción global. Las dimensiones más valoradas fueron las relaciones interpersonales (90,9% "muy satisfecho") y el profesionalismo demostrado (90,5%). El aspecto menos valorado fue el tiempo dedicado por el enfermero especialista en rehabilitación (78,6% "muy satisfecho"; 20,6% "satisfecho").

Discusión: Los resultados son consistentes con estudios nacionales e internacionales que reportan niveles elevados de satisfacción con los cuidados de enfermería de rehabilitación. Sin embargo, el tiempo de intervención surge como un área de mejora, lo que señala la necesidad de ajustar las dotaciones de especialistas y reforzar la continuidad de cuidados tras el alta.

Conclusión: La satisfacción de las personas hospitalizadas en cardiología y cirugía cardiotorácica evidencia el papel diferenciador de los enfermeros especialistas en rehabilitación, reforzando la pertinencia de estrategias centradas en la persona y en la optimización de los recursos humanos.

Descriptores: Satisfacción del paciente; Enfermería em rehabilitación; Cardiología; Cirugía Torácica; Calidad de la atención de salud

INTRODUCTION

Cardiovascular diseases (CVD) remain the leading cause of morbidity and mortality worldwide, placing a substantial burden on healthcare systems and societies[1]. Hospital admission to cardiology and cardiothoracic surgery wards is associated with complex clinical and functional care needs requiring coordinated and structured interventions[2,3].

Within this context, rehabilitation nursing plays a distinct role during the inpatient phase of cardiovascular care. Rehabilitation interventions promote functional recovery, prevent complications associated with immobility, provide therapeutic education, and prepare patients and families for discharge and continuity of care[3,4]. These interventions aim to promote autonomy and support patients' adaptation to health changes during hospitalisation. The quality of these interactions constitutes a relevant component of patients' overall care experience[5].

Patient satisfaction is widely recognized as an important indicator of perceived healthcare quality and patient experience[5,6]. It reflects patients' evaluation of care in relation to expectations, interpersonal communication, professional competence, and organizational aspects of service delivery[6,7]. Satisfaction is considered a multidimensional construct influenced by relational, structural and process-related dimensions of care[7].

However, the measurement of patient satisfaction presents recognized methodological challenges. High overall satisfaction scores are frequently reported in hospital-based studies, raising concerns regarding ceiling effects that may limit sensitivity to detect variability or areas for improvement[8]. Additionally, social desirability bias may influence patients' responses, particularly when questionnaires are administered during hospitalization or at discharge[9].

Although structured cardiac rehabilitation programs have been extensively studied[2], most of this evidence focuses on multidisciplinary outpatient programmes or on overall evaluations of nursing care. Evidence specifically addressing patient satisfaction with specialised rehabilitation nursing during hospitalisation in cardiology and cardiothoracic surgery wards remains limited. Therefore, the present study aims to assess the satisfaction of patients admitted to these units with specialized rehabilitation nursing care, using the validated QS-Enf-10 instrument. The research question guiding this study was: "What is the level of satisfaction of patients hospitalized in cardiology and cardiothoracic surgery units with specialized rehabilitation nursing care during their hospital stay?"

METHODOLOGY

This descriptive, cross-sectional, quantitative study was conducted in accordance with the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines[10]. It took place in the Cardiology and Cardiothoracic Surgery wards of a tertiary hospital in Northern Portugal over a four-month period, following ethical approval. A convenience sample of 243 inpatients was recruited. Inclusion criteria were age ≥18 years, hospitalisation in the specified wards, ability to provide informed consent and complete the questionnaire. Patients with severe cognitive impairment or unstable clinical conditions were excluded. Cognitive status and clinical stability were assessed through routine clinical evaluation prior to questionnaire administration.

Sociodemographic data included age, sex, marital status, education, professional activity, living arrangements, caregiver support, and exercise habits. Clinical data comprised diagnosis, cardiovascular risk factors, medical history, surgical or interventional procedures, length of hospital stay, and functional status.

Patient satisfaction was assessed using the Satisfaction with Nursing Care Questionnaire (SNQ-10), originally developed and validated in Italy by Ottonello, Benevolo and Zsirai[11]. The Portuguese version (QSEnf-10) was adapted and validated for the Portuguese population by Lopes[12], demonstrating adequate psychometric properties. The instrument consists of 10 items rated on a 3-point Likert scale (1 = very satisfied; 2 = satisfied; 3 = dissatisfied), covering interpersonal, technical and organizational dimensions of care. The QSEnf-10 does not provide normative cut-off points; therefore, in this study the instrument was analyzed as a continuous measure, with lower scores indicating higher satisfaction with nursing care[11]. Although the QSEnf-10 does not provide normative cut-off points, a theoretical total score from 10 to 30 can be obtained, with lower scores indicating higher satisfaction. In this study, the instrument was treated as a continuous measure.

Data was collected at hospital discharge by trained nurse researchers. Participation was voluntary, confidentiality was ensured, and the average time to complete the questionnaire was approximately 10 minutes. Data collection took place between September and the end of December 2024, over a 4month period.

Data analysis was performed using IBM SPSS Statistics, version 29. Descriptive statistics were

used to summarize sociodemographic and clinical characteristics, with categorical variables presented as frequencies and percentages, and continuous variables as mean and standard deviation (SD).

The study was approved by the institutional Ethics Committee (approval nº I.NZ5_CES/2024), and authorization for data collection in the Cardiology and Cardiothoracic Surgery wards was granted by the hospital administration (authorization nº I28319-202406, June 12, 2024). Permission to use the Portuguese version of the questionnaire (QSEnf10) was obtained from the author responsible for its translation and cultural adaptation. All participants provided written informed consent in accordance with the Declaration of Helsinki.

RESULTS

A total of 243 participants were included in the study, with a mean age of 63.9 ± 12.1 years (range: 22–89). The majority were male (73.3%), married (70.8%), and retired (42.8%). Most participants lived with their spouse and/or family (84.8%), and more than half (54.3%) reported having a caregiver, most frequently their spouse (36.6%).

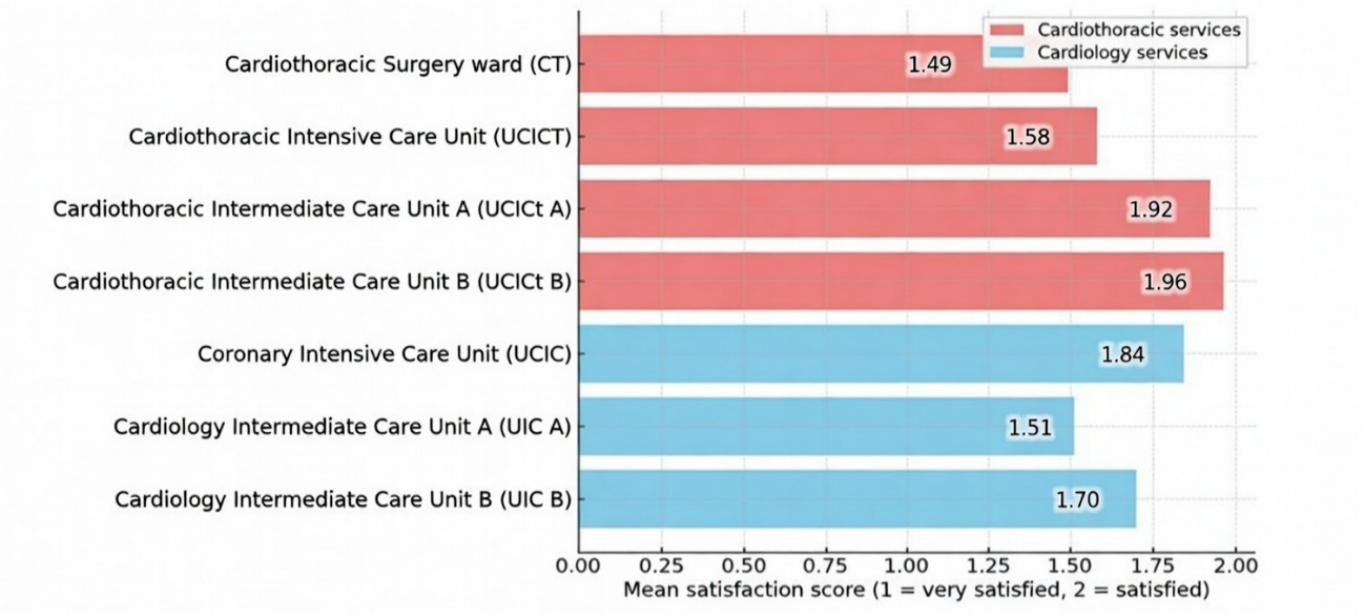
With respect to health status, the most prevalent cardiovascular risk factors were hypertension (61.9%), dyslipidemia (60.6%), stress (49.4%), diabetes mellitus (34.6%), obesity (34.2%), smoking (35.5%), and sedentary lifestyle (35.9%). The main admission diagnoses were valvular disease (27.6%), myocardial infarction (25.6%) and coronary artery disease (18.1%).

The mean length of hospital stay was 7.5 ± 5.1 days, with a median of 6 (range: 3–62). When categorized, 41.2% of patients stayed ≤ 5 days, 38.3% stayed between 6 and 10 days, and 20.5% were hospitalised for more than 10 days.

In terms of hospitalisation units, 52.6% of patients were admitted to cardiothoracic surgery services, including the Cardiothoracic Surgery ward (CT), the Cardiothoracic Intensive Care Unit (UCICT), and the Cardiothoracic Intermediate Care Units A and B (UCICT A and UCICT B). The remaining 47.4% were admitted to cardiology services, namely the Coronary Intensive Care Unit (UCIC) and the Cardiology Intermediate Care Units A and B (UIC A and UIC B).

Satisfaction analysis by unit showed the lowest mean value (greater satisfaction) in the Cardiothoracic Surgery ward (mean = 1.49), followed by the Cardiothoracic Intensive Care Unit (UCICT) (mean = 1.58), the Cardiology Intermediate Care Unit A (UIC A) (mean = 1.51) and the Cardiology Intermediate Care Unit B (UIC B) (mean = 1.70). Higher mean values, indicating comparatively lower satisfaction, were observed in the Coronary Intensive Care Unit (UCIC) (mean = 1.84), the Cardiothoracic Intermediate Care Unit A (UCICT A) (mean = 1.92) and the Cardiothoracic Intermediate Care Unit B (UCICT B) (mean = 1.96). These mean values suggest some variation in patient experience across services. However, no inferential statistical analysis was performed to compare satisfaction across units, and these differences should therefore be interpreted descriptively only.

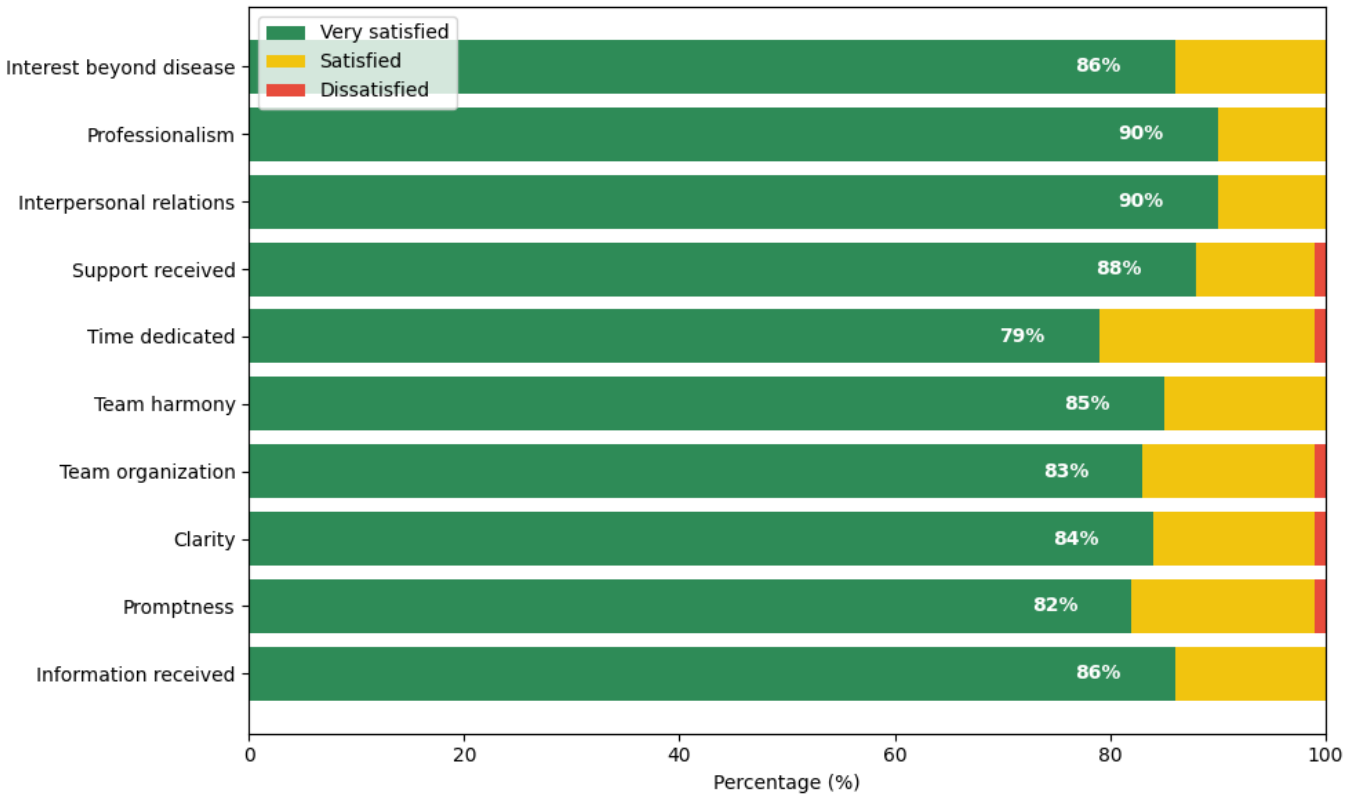
Graphic 1 - Patient satisfaction by unit of hospitalization



Overall satisfaction with rehabilitation nursing care was high across all domains of the QSEnf-10. The most valued aspects were interpersonal relations (90.9% "*very satisfied*") and professionalism (90.5%). Other highly rated dimensions included the support received from the rehabilitation nurse (88.9%) and the interest shown in the person beyond the disease (86.4%). The dimension with lower scores was the time dedicated by the rehabilitation nurse specialist, although it was still rated as "*very satisfied*" by 78.6% and as "*satisfied*" by 20.6% of respondents (Graphic 2).

The QSEnf-10 demonstrated high internal consistency in this population, with Cronbach's alpha of 0.894, confirming the reliability of the instrument for assessing satisfaction with rehabilitation nursing care in cardiology and cardiothoracic surgery settings.

Graphic 2 - Patient Satisfaction with Rehabilitation Nursing Care (QSEnf-10)



DISCUSSION

This study assessed patient satisfaction with rehabilitation nursing care in cardiology and cardiothoracic surgery wards of a Portuguese tertiary hospital using the QSEnf10, and found overall very high satisfaction, particularly in interpersonal and professional domains. At the same time, the comparatively lower ratings for "time dedicated by the rehabilitation nurse specialist" suggests a perceived constraint in availability, indicating that, despite the positive evaluation of care, patients perceived limited opportunities for direct interaction with rehabilitation nurses.

These findings are consistent with previous national studies using the QSEnf10, which also reported high satisfaction with rehabilitation nursing care and emphasised the importance of communication and professional competence in patients' evaluations[12,13]. Internationally, the original validation of the SNQ10 by Ottonello et al (2002) and subsequent work on cardiovascular nursing and rehabilitative cardiology highlight the importance of nurse–patient interactions, education and followup as central elements shaping patients' care experience[11,14]. However, satisfaction should be interpreted as a subjective indicator of perceived care experience rather than as a direct measure of objective care quality or clinical effectiveness. In this context, the present study contributes by providing contextspecific data from cardiology and cardiothoracic surgery wards in Portugal, showing that even in a setting with very high reported satisfaction, patients may still identify opportunities for improvement, particularly regarding the time spent with rehabilitation nurses.

The very high scores observed need to be interpreted in light of methodological issues commonly described in satisfaction research. Patient satisfaction and experience measures frequently show rightskewed distributions and ceiling effects,

which reduce variability and can make it difficult to discriminate between services or identify areas for improvement[9,15,16]. In our sample, the predominance of "very satisfied" responses across all domains and the consistently low mean scores reflect a markedly right-skewed distribution with limited score variability. This reduced dispersion constrains the sensitivity of the QSEnf-10 to detect meaningful differences across units or patient subgroups and may partly reflect the inherent limitations of a 3-point Likert format, which provides fewer response options and may compress true variation in patient experience compared to wider scales. Reporting mean scores per item alongside percentage distributions, as presented in this study, partially addresses this limitation by enabling a more nuanced comparison across domains, although inter-unit differences remain difficult to interpret without inferential analysis. In addition, data were collected at hospital discharge, a moment when relief, gratitude and dependence on the care team may amplify positive evaluations and attenuate criticism; studies on the timing of satisfaction assessment indicate that scores and distribution properties can vary depending on when the questionnaire is administered in relation to the care episode[15,17]. Social desirability bias is the tendency to provide responses perceived as socially acceptable or protective of caregivers, may further contribute to inflated satisfaction levels and limited score dispersion[18].

Within these constraints, the pattern of slightly lower satisfaction regarding time dedicated by the rehabilitation nurse specialist becomes particularly relevant. It may reflect organisational factors such as staffing, workload and competing demands between direct patient care, documentation and interprofessional activities, which have been linked in the literature to patient experience and to nurses' capacity to maintain personcentred interactions[14,19,20]. From a practical standpoint, our findings suggest that interventions aimed at protecting or reorganising rehabilitation nursing time through adjustment of nursetopatient ratios, task redistribution or integration of rehabilitation goals into daily ward routines, could enhance patients' perceived engagement, even though clinical outcomes were not directly evaluated in this study. At the same time, any reorganisation should consider nurse workload and wellbeing, as strain and burnout have been associated with compromised quality and patient experience in various settings[16,20].

The interpretation of satisfaction as a marker of quality and safety also deserves careful consideration. Largescale observational studies and surveys support an association between better patient experience and outcomes such as hospital readmissions and mortality, justifying the use of satisfaction as a sentinel indicator at system level[21,22,23]. However, the crosssectional, singlecentre design of the present study, focused exclusively on inpatients at discharge, does not allow any inference about causality or direct links to clinical outcomes. Our results should therefore be understood as a description of perceived satisfaction with rehabilitation nursing care in a specific organisational context, rather than as evidence that high satisfaction in this sample translates into improved survival, fewer readmissions or better functional recovery.

This study has several strengths, including the use of a validated and culturally adapted instrument with good internal consistency in this population, and the inclusion of multiple cardiology and cardiothoracic surgery units that reflect different points along the care pathway. Nonetheless, important limitations must be acknowledged: the monocentric design limits generalisability; the convenience sample, combined with the exclusion of patients with cognitive impairment or greater clinical instability, may underrepresent patients with more negative experiences, potentially contributing to inflated satisfaction levels and constituting a source of selection bias; the crosssectional design precludes temporal or causal interpretations; and the exclusive reliance on selfreport at discharge increases the risk of ceiling effects and social desirability bias, as discussed above[9,15–18]. Future studies could address these limitations by incorporating mixed-method approaches, repeating satisfaction measurements at different time points after discharge, and linking patientreported experience to clinical and functional outcomes.

Building on the present findings, future research should explore targeted interventions focused on optimising the time and mode of interaction between rehabilitation nurses and patients. Approaches such as liaison nurse roles during care transitions, telehealthsupported followup and digitally assisted transitional care pathways have shown potential to reduce anxiety and improve patient experience in other cardiovascular contexts and could be adapted to rehabilitation settings[24-26]. Additionally, examining how organisational characteristics and nurse wellbeing interact with satisfaction with rehabilitation nursing care would help to identify modifiable levers to support sustainable, highquality and personcentered practice.

In conclusion, this study confirms very high reported satisfaction with rehabilitation nursing care among patients hospitalised in cardiology and cardiothoracic surgery wards, particularly regarding interpersonal and professional dimensions, while identifying perceived time with the rehabilitation nurse as a key area for improvement. These findings reflect patients' perceived experience in this specific organisational context and should not be interpreted as evidence of objective quality or effectiveness of care. Interpreting these findings requires consideration of potential ceiling effects, social desirability bias and the timing of data

collection and highlights the need for complementary study designs to clarify how patient experience relates to broader indicators of quality and outcomes in cardiovascular rehabilitation.

CONCLUSION

This study showed high levels of patient satisfaction with rehabilitation nursing care among adults hospitalised in cardiology and cardiothoracic surgery wards of a Portuguese tertiary hospital. Satisfaction was particularly high regarding interpersonal relations, professionalism and the support provided by rehabilitation nurse specialists. The comparatively lower ratings for the time dedicated by rehabilitation nurses point to a perceived limitation in availability, suggesting a potential focus area for organisational planning and future research. These findings should be interpreted as a description of patients' perceived experience with rehabilitation nursing care in a specific organisational context, and not as evidence of objective quality or effectiveness of care. Nonetheless, they highlight the relevance of the rehabilitation nurse specialist within multidisciplinary cardiovascular inpatient care and reinforce the importance of personcentred approaches in this setting.

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