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REHABILITATION NURSE INTERVENTION IN PATIENTS PROPOSED FOR ABDOMINAL SURGERY: A SCOPING REVIEW

*INTERVENÇÃO DO ENFERMEIRO DE REABILITAÇÃO NA PESSOA PROPOSTA PARA
CIRURGIA ABDOMINAL: UMA SCOPING REVIEW*

*INTERVENCIÓN DE ENFERMERÍA DE REHABILITACIÓN EN PACIENTES PROPUESTOS
PARA CIRUGÍA ABDOMINAL: UNA SCOPING REVIEW*

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RESUMO

Introdução: A pessoa submetida a cirurgia abdominal atravessa várias alterações e complicações decorrentes de um processo cirúrgico. O período pré-operatório surge como uma oportunidade ao Enfermeiro de Reabilitação, para a identificação das necessidades da pessoa proposta para cirurgia abdominal. Surge então este estudo que teve como objetivo mapear a evidência científica sobre as intervenções do EEER à pessoa proposta para cirurgia abdominal, durante o período pré-operatório.

Metodologia: Foi realizada uma Scoping review, orientada pelos princípios do Joanna Briggs Institute, seguindo as diretrizes PRISMA-ScR e a mnemónica PCC: População (pessoas adultas propostas para cirurgia abdominal), Conceito (intervenções de reabilitação na consulta pré-operatória) e Contexto (hospital). Recorreu-se às bases de dados MEDLine (PubMed), CINAHL (EBSCOHost) e LILACS, sem limite temporal e com restrição de idioma (português, inglês e espanhol).

Resultados: Da pesquisa realizada, foram incluídos trinta e um artigos para análise. Foram posteriormente, agrupados em três áreas de intervenção distintas: otimização da função respiratória/fortalecimento dos músculos respiratórios; treino motor e fortalecimento dos membros superiores e inferiores; e educacionais para a mudança comportamental.

Discussão: Uma intervenção holística, no momento pré-operatório, é crucial no processo de transição da pessoa submetida a cirurgia abdominal, ao avaliar as necessidades individuais da pessoa, oferecer apoio emocional, educação e treino adequado. Essencialmente, percebeu-se que a sistematização de áreas de intervenção de Enfermagem de Reabilitação teria impacto na melhoria da condição da pessoa no período pós-operatório. Atendendo ao facto que o desenvolvimento destas estratégias teria que ocorrer no domicílio, a criação de uma consulta pré-operatória de Enfermagem de Reabilitação surge como uma possibilidade emergente na prevenção de complicações pós-operatórias, diminuição da ansiedade e capacitação para o processo cirúrgico.

Conclusão: As intervenções de reabilitação direcionadas à pessoa em período pré-operatório são fundamentais, contribuindo para a satisfação dos clientes e qualidade e segurança nos cuidados de enfermagem de reabilitação.

Descritores: Enfermagem em Reabilitação; Cirurgia Abdominal; Complicações Pós-operatórias; Laparotomia; Reabilitação Pré-operatória.

ABSTRACT

Introduction: The person undergoing abdominal surgery goes through various changes and complications resulting from a surgical process. The preoperative period is an opportunity for the

Rehabilitation Nurse to identify the needs of the person undergoing abdominal surgery. The aim of this study was to map the scientific evidence on the Nurse Specialising in Rehabilitation Nursing interventions with people undergoing abdominal surgery during the preoperative period.

Methodology: A scoping review was carried out, guided by the principles of the Joanna Briggs Institute, following the PRISMA-ScR guidelines and the PCC mnemonic: Population (adult people proposed for abdominal surgery), Concept (rehabilitation interventions in the preoperative consultation) and Context (hospital). MEDLine (PubMed), CINAHL (EBSCOHost) and LILACS databases were used, with no time limit and language restrictions (portuguese, english and spanish).

Results: Thirty-one articles were included in the search. They were then grouped into three distinct intervention areas: optimising respiratory function/strengthening respiratory muscles; motor training and strengthening upper and lower limbs; and education for behavioural change.

Discussion: A holistic preoperative intervention is crucial in the transition process of the person undergoing abdominal surgery, by assessing the individual needs of the person, offering emotional support, education and appropriate training. Essentially, it was realised that systematising areas of rehabilitation nursing intervention would have an impact on improving the person's condition in the post-operative period. Given that the development of these strategies would have to take place at home, the creation of a preoperative Rehabilitation Nursing consultation emerged as an emerging possibility for preventing postoperative complications, reducing anxiety and building capacity for the surgical process.

Conclusion: Rehabilitation interventions aimed at people in the preoperative period are fundamental, contributing to client satisfaction and quality and safety in rehabilitation nursing care.

Descriptors: Rehabilitation Nursing; Abdominal Surgery; Postoperative Complications; Laparotomy; Preoperative Rehabilitation.

RESUMEN

Introducción: La persona sometida a cirugía abdominal pasa por diversos cambios y complicaciones resultantes de un proceso quirúrgico. El período preoperatorio es una oportunidad para que la Enfermera de Rehabilitación identifique las necesidades de la persona sometida a cirugía abdominal. El objetivo de este estudio fue mapear la evidencia científica sobre las intervenciones de la Enfermera especializada en Enfermería de Rehabilitación con personas sometidas a cirugía abdominal durante el periodo preoperatorio.

Metodología: Se realizó una revisión de alcance, guiada por los principios del Instituto Joanna

Briggs, siguiendo las directrices PRISMA-ScR y la mnemotecnica PCC: Población (personas adultas propuestas para cirugía abdominal), Concepto (intervenciones de rehabilitación en la consulta preoperatoria) y Contexto (hospital). Se utilizaron las bases de datos MEDLine (PubMed), CINAHL (EBSCOHost) y LILACS, sin límite de tiempo y con restricciones de idioma (portugués, inglés y español).

Resultados: Treinta y un artículos fueron incluidos en la búsqueda. Fueron agrupados en tres áreas de intervención diferentes: optimización de la función respiratoria/fortalecimiento de la musculatura respiratoria; entrenamiento motor y fortalecimiento de los miembros superiores e inferiores; y educación para el cambio de comportamiento.

Discusión: Una intervención preoperatoria holística es crucial en el proceso de transición de la persona sometida a cirugía abdominal, evaluando las necesidades individuales de la persona, ofreciendo apoyo emocional, educación y formación adecuada. Esencialmente, se comprendió que la sistematización de las áreas de intervención de la enfermería de rehabilitación repercutiría en la mejora del estado de la persona en el postoperatorio. Dado que el desarrollo de estas estrategias tendría que tener lugar en casa, la creación de una consulta de Enfermería de Rehabilitación preoperatoria surgió como una posibilidad emergente para prevenir complicaciones postoperatorias, reducir la ansiedad y desarrollar la capacidad para el proceso quirúrgico.

Conclusión: Las intervenciones de Rehabilitación dirigidas a las personas en el periodo preoperatorio son fundamentales, contribuyendo a la satisfacción del cliente y a la calidad y seguridad en los cuidados de Enfermería de Rehabilitación.

Descriptores: Enfermería de Rehabilitación; Cirugía Abdominal; Complicaciones Postoperatorias; Laparotomía; Rehabilitación Preoperatoria.

INTRODUCTION

In 2022, one million surgical procedures (excluding minor surgery) were recorded in Portuguese hospitals, representing an increase of 18.2% compared with the previous year⁽¹⁾. In fact, health services face the challenge of adapting resources and strategies to ensure effective responses to growing needs and the specific complications arising from an ageing population. It is important to note that complication rates for abdominal surgery range from 30 to 40%⁽²⁾. Contributing to this is frailty, which increases the likelihood of post-operative morbidity, as well as leading to longer hospital stays (on average 2.5 days longer) compared with healthy individuals⁽³⁾. In this context, it is important to highlight that complications arising from surgery pose a major challenge to health, leading to longer hospital stays and increased costs associated with care provision; they can compromise life

expectancy and also have an impact on the client's quality of life⁽⁴⁾.

A systematic Rehabilitation Nursing (RN) approach during the pre-operative period, in addition to contributing to an improved hospital experience, will also help patients cope more effectively with the surgery, set realistic expectations for the post-operative period, and contribute to patients' positive satisfaction with the care provided⁽⁵⁾. It should be noted that structured programmes initiated as early as the pre-operative phase not only have a positive impact on the management of pain and anxiety, but also increase patients' knowledge of the surgery and changes to self-care, reduce the average length of hospital stay with associated cost savings, and improve acceptance of and adherence to the defined individualised rehabilitation programme⁽⁶⁾. The literature indicates that the development of pre-operative strategies may be predictive factors for the reduction of risk factors associated with surgical procedures⁽⁴⁾.

In light of the above, and in accordance with the social mandate of the Specialist Nurse in Rehabilitation Nursing (SNRN), and in order to highlight the value of rehabilitation nursing intervention, the theoretical framework proposed by Meleis—the theory of transitions⁽⁷⁾—was utilised. Given that clients undergoing abdominal surgery experience a change in their health status as a result of the clinical diagnosis, it is important to highlight the client's experience of this transition, which may be influenced by various factors (physical, emotional, cognitive, contextual). The SNRN intervention is based on a holistic approach, focusing on supporting the patient so that they can successfully cope with the changes associated with surgery, thereby promoting a full recovery. In this context, SNRN offers added value in maintaining a person's functional abilities and preventing complications and disabilities, thereby helping them to maintain or regain independence in activities of daily living⁽⁸⁾.

In this regard, the Good Practice Guidelines for Respiratory Rehabilitation, issued by the Portuguese Nurses' Association⁽⁹⁾, emphasise that the educational component is important in the pre-operative period, particularly in teaching and training patients in coughing techniques, breathing exercises, muscle exercises, early mobilisation and postural correction exercises. It should also cover information on the type of surgery, care of the surgical wound, and the devices and resources used for negative pressure therapy (an increasingly common practice in the surgical context). This same SNRN clinical practice guideline emphasises the need to implement functional respiratory rehabilitation programmes in the pre-operative phase, encompassing strength and endurance exercises that include training of the respiratory muscles. These SNRN interventions have demonstrated improvements in lung capacity and the 6-minute walk

test, as well as a lower incidence of post-operative respiratory morbidity.

In light of the above, the implementation of a systematic approach to Rehabilitation Nursing (RN) in the pre-operative period may be a key moment in the journey of a person due to undergo abdominal surgery, a period characterised by multiple physical, emotional and social needs and requiring specialised care. This stage will provide opportunities to identify potential risks, promote health education and prepare the patient for a safer and more efficient post-operative period, as well as contributing to satisfaction with the care provided⁽²⁾.

In view of the above, the importance of improving the professional practice of the SNRN, and the lack of systematic evidence on this topic, this study was conducted with the aim of mapping the scientific evidence on SNRN interventions for patients scheduled for abdominal surgery during the pre-operative period.

The aim is therefore to answer the following research question: What interventions do SNRNs carry out for patients scheduled for abdominal surgery during the pre-operative period?

METHODOLOGY

This is a *scoping review* based on the methodology proposed by the Joanna Briggs Institute, and its drafting followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR) guidelines¹⁰. The protocol for this review was developed and is registered on the Open Science Framework (<https://osf.io/b85c6/>).

We used the Population, Concept and Context (PCC) mnemonic to formulate the research question: What are the SNRN interventions in the pre-operative consultation for patients scheduled for abdominal surgery? It is important to note that the PCC was followed to define the eligibility criteria, in accordance with the guidelines recommended by the Joanna Briggs Institute⁽¹⁰⁾.

With regard to the Population, studies involving adults scheduled for abdominal surgery were considered.

Within the scope of the Concept, we defined the SNRN nursing interventions during the pre-operative period. We understand that nursing interventions reflect nursing knowledge, critical thinking and decision-making, and may also be an important focus of research to better understand how nursing care influences patient outcomes⁽¹¹⁾. Furthermore, with regard to ER, also within the SNRN, this enables decision-making concerning health promotion, the prevention of complications, treatment and rehabilitation for individuals requiring specialised ER care⁽⁸⁾.

With regard to Context, we included studies conducted within the clinical practice context of the SNRN in a hospital setting; our aim was to conduct

a review covering the pre-operative phase for individuals scheduled for abdominal surgery, given that the first point of contact with the entire surgical process takes place in hospital.

In this review, we considered quantitative studies (randomised controlled trials or other quasi-experimental studies, including before-and-after studies and observational designs), qualitative studies (focusing on qualitative data, not limited to phenomenology, ethnographic designs and grounded theory), review studies (systematic reviews) and grey literature.

This breadth of studies allowed for greater sensitivity in the research, with the aim of mapping the available evidence. Research findings involving non-human subjects, as well as studies on laparoscopic and gynaecological surgery, were excluded.

The search strategy was designed to identify published studies and was carried out in three stages. The first stage consisted of an initial search of MEDLINE (via PubMed) and CINAHL *Complete* (via EBSCO) to identify articles on the topic and analyse the words included in the titles and abstracts of these articles, as well as the indexing terms used. The second stage focused on a search of the relevant databases using the keywords and index terms identified in the first stage. Both published and unpublished studies (grey literature) were included; these were in Portuguese, English and Spanish, as these are the languages spoken by the researchers; and there was no time limit. The databases used were MEDLINE (via PubMed), CINAHL (via Ebsco Host), the JBI *Database of Systematic Reviews and Implementation Reports*, and the Cochrane Library. The search for grey literature was carried out in the *following* databases: the Portuguese Open Access Scientific Repository (RCAAP), *DART Europe* and *ProQuest* (Table 1). The third stage consisted of analysing the reference lists of the included studies, with a view to identifying any further findings relevant to the topic under analysis.

TABLE SHOWING THE SEARCH STRATEGY

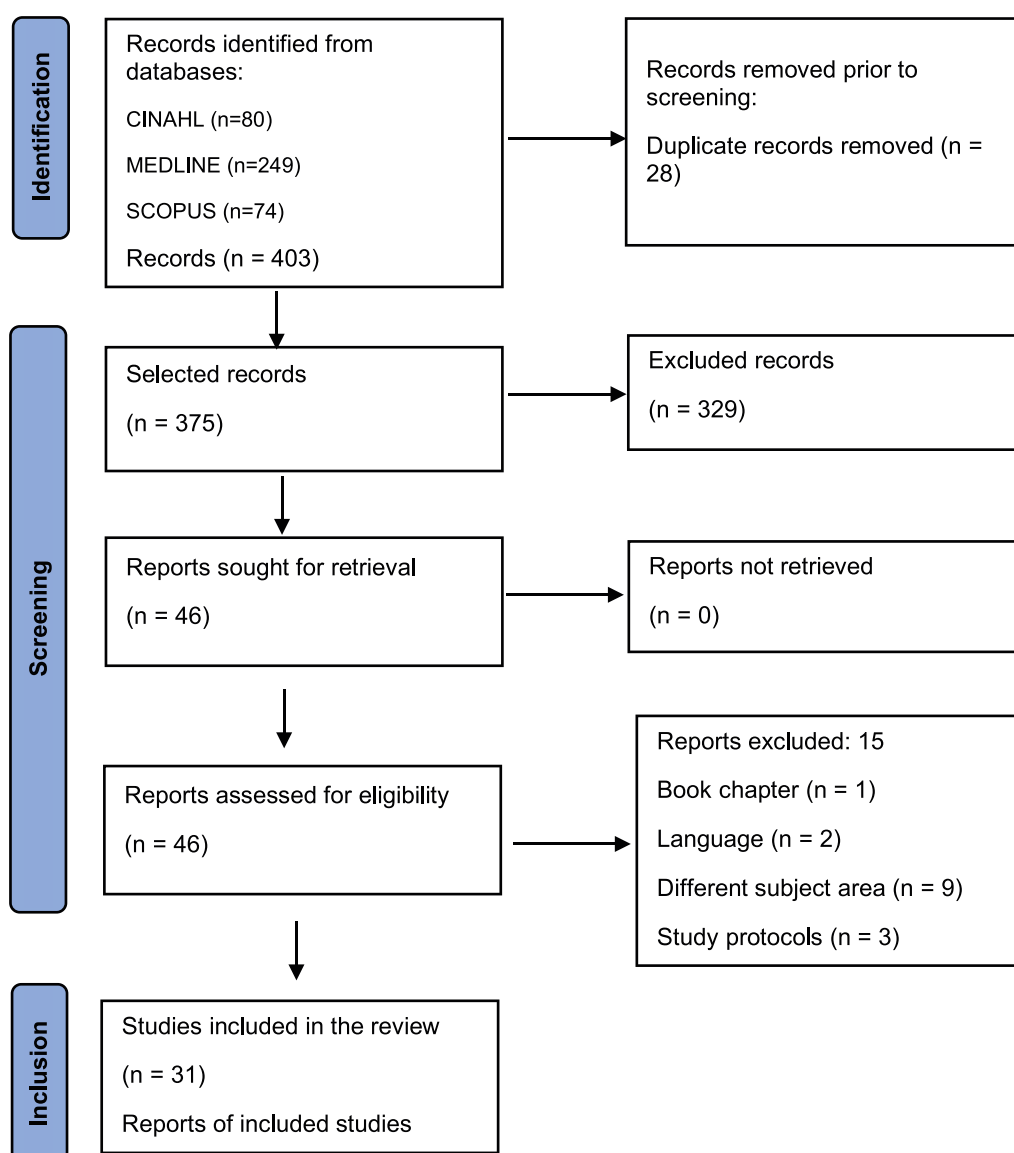
Following the search, all identified studies were uploaded to the Rayyan® platform, where duplicates were identified and removed. Two independent reviewers analysed the titles and abstracts to verify the eligibility criteria, having first conducted a pilot screening of the first 25 titles and abstracts. The aim of this stage was to ensure that the predefined eligibility criteria were suitable for capturing the desired results and to ensure consensus among the reviewers. Subsequently, the full text of all studies that met or potentially met the eligibility criteria was analysed independently by the two reviewers. Any discrepancies were resolved through constructive discussion, without the need to consult a third reviewer.

Data extraction was also carried out independently by the two reviewers, who analysed the full texts and recorded all reasons for excluding studies. For this phase, a data extraction table was developed by the authors, containing fields for information such as authors, year of publication, country of origin, aim and type of study, as well as the main results related to the research question and objective. Following data extraction, a thematic analysis of the findings was carried out, followed by a narrative synthesis of the main results.

RESULTS

The literature search identified 403 articles, of which 31 were selected for full-text reading. It is important to note that 28 articles were removed as duplicates, 329 were excluded following a review of the title and abstract, and 15 were eliminated after full-text reading as they did not correspond to the study's objective. Figure 1 shows the PRISMA ScR flowchart.

Figure 1 - PRISMA ScR flow chart



Of the included articles, the year of publication ranged from 1997 to 2023, with 2020 being the most common year, accounting for five articles.

In terms of country of origin, publications were found in various countries worldwide, with the Netherlands being the most common, accounting

for four studies.

It is also worth noting that, in terms of the nature of the studies, experimental studies were found to be more prevalent, with 14 articles selected.

Table 1 presents the search strategy used in the databases.

Table 1 – Search strategy for the defined databases

Search	Search	Results
CINAHL (EsbcoHost)		
S1	(MH “Laparotomy”) OR (MH “Surgery, Operative”) OR (MH “Surgery, Elective”) OR (MH “Surgery, Digestive System”) OR (MH “Enhanced Recovery After Surgery”) OR (MH “Surgical Patients”) OR (MH “Pancreaticoduodenectomy”) OR (MH “Metastasectomy”) OR (MH “Hepatectomy”) OR (MH “Aortic Aneurysm, Abdominal”) OR (“General Surgery”) NOT (MH “Surgery, Gynaecological”) NOT (MH “Orthopaedic Surgery”) NOT (MH “Laparoscopic Surgery”)	17,590
S2	(MH “Preoperative Care”) OR (MH “Surgical Preparation (Iowa NIC)”) OR (MH “Rehabilitation Nurses”) OR (MH “Rehabilitation Nursing”) OR (MH “Prehabilitation”) OR (MH “Nurses”) OR (MH “Nursing Interventions”) OR (MH “Preoperative Education”) OR (MH “Nursing Protocols”) OR (“Preoperative Consultation”) OR (“Preoperative Exercise”) OR (“Physical Therapist”)	22,104
S3	(MH “Outcome Assessment”) OR (MH “Nursing Outcomes”) OR (MH “Practice Guidelines”) OR (“Health Gains”) OR (“Hospitalisation Time”) OR (“Health Impact Assessment”) OR (“Good Practice Guides”)	29,840
S4	NOT (MH “Gynaecological Surgery”) NOT (MH “Orthopaedic Surgery”) NOT (MH “Laparoscopic Surgery”)	1,559
S5	S1 AND S2 AND S3 NOT S4	80

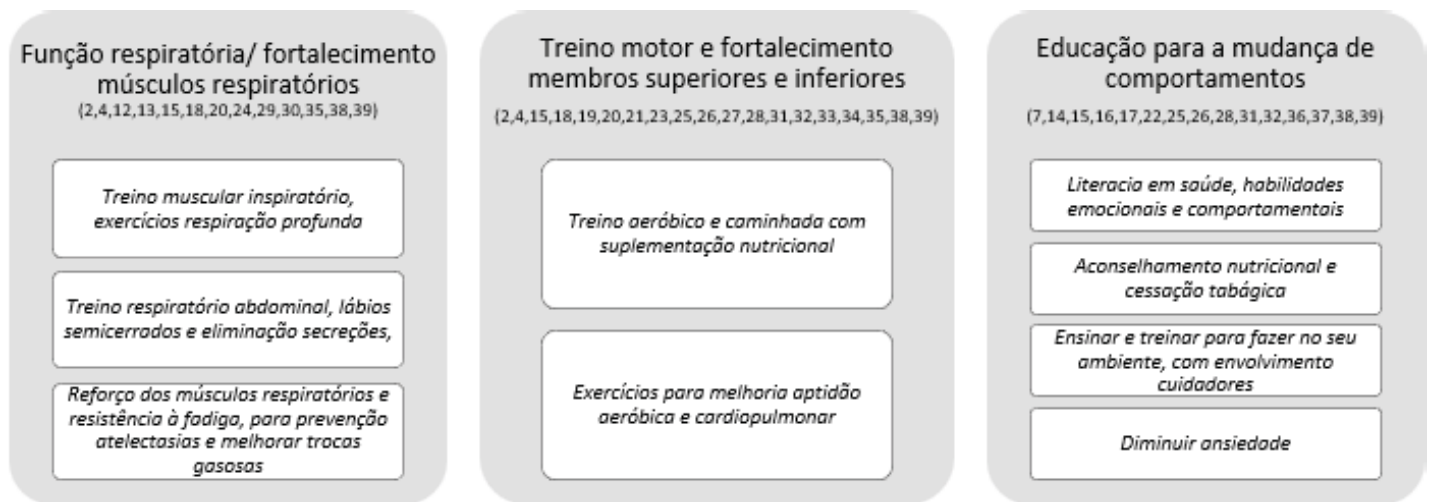
MEDLINE (PubMed)		
Search	Query	Results
S1	(“general surgery”[MeSH Terms] OR “laparotomy”[MeSH Terms] OR “gastrectomy”[MeSH Terms] OR “colorectal surgery”[MeSH Terms] OR “abdominal aortic aneurysm”[Title/Abstract] OR “laparotomy”[Title/Abstract] OR “gastrectomy”[-Title/Abstract] OR “rectal surgery specialty”[Title/Abstract] OR “rectal surgery specialty”[Title/Abstract] OR “Abdominal Aortic Aneurysm”[Title/Abstract] OR “abdominal aortic aneurysm*”[-Title/Abstract] OR “Digestive System Surgical Procedure”[Title/Abstract] OR “gastrointestinal surgical procedure*”[Title/Abstract] OR “abdominal surgery”[Title/Abstract])	197,071
S2	(“nursing care”[MeSH Terms] OR “rehabilitation nursing”[MeSH Terms] OR “preoperative care”[MeSH Terms] OR “preoperative exercise”[MeSH Terms] OR “rehabilitation”[Title/Abstract] OR “preoperative consultation”[Title/Abstract] OR “preoperative exercise”[Title/Abstract] OR “rehabilitation nursing”[Title/Abstract])	424,885
S3	(“hospitalisation”[MeSH Terms] OR “postoperative outcomes”[-Title/Abstract] OR “results analysis”[Title/Abstract] OR “length of stay”[Title/Abstract] OR “good practice guides”[Title/Abstract] OR “best practice*”[Title/Abstract])	357,458
S4	(“Gynecologic Surgical Procedures”[MeSH Terms] OR “Orthopaedic Procedures”[MeSH Terms] OR “laparoscopy”[MeSH Terms] OR “gynaecological surgery”[Title/Abstract] OR “Orthopaedic Surgery”[Title/Abstract] OR “laparoscopic surgery”[Title/Abstract] OR “laparoscopic surger*”[Title/Abstract] OR “laparoscop*”[Title/Abstract])	620,794
S5	S1 AND S2 AND S3 NOT S4	249

Search	Search	Results
SCOPUS		
S1	ABS (“general surgery” OR “laparotomy” OR “gastrectomy” OR “colorectal surgery” OR “abdominal aortic aneurysm” OR “laparotomy” OR “gastrectomy” OR “rectal surgery specialty” OR “rectal surgery specialty” OR “Abdominal Aortic Aneurysm” OR “abdominal aortic aneurysm*” OR “Digestive System Surgical Procedure” OR “gastrointestinal surgical procedure*” OR “abdominal surgery”)	150,171
S2	ABS (“nursing care” OR “rehabilitation nursing” OR “preoperative care” OR “preoperative exercise” OR “rehabilitation” OR “preoperative consultation” OR “preoperative exercise” OR “rehabilitation nursing”)	312,120
S3	ABS (“hospitalisation” OR “postoperative outcomes” OR “results analysis” OR “length of stay” OR “good practice guides” OR “best practice”)	357,604
S4	ABS (“Gynaecological Surgical Procedures” OR “Orthopaedic Procedures” OR “laparoscopy” OR “gynaecological surgery” OR “Orthopaedic Surgery” OR “laparoscopic surgery” OR “laparoscopic surger*” OR “laparoscop*”)	178,412
S5	S1 AND S2 AND S3 AND NOT S4	74

The analysis of the included studies was organised into three areas: (1) respiratory function/strengthening of respiratory muscles; (2) motor training and strengthening of the upper and lower

limbs; (3) education for behavioural change.

Figure 2 illustrates the areas, with their respective interventions, that emerged from the analysis

Figure 2 – Areas of intervention for the Specialist Nurse in Rehabilitation Nursing.

Among the interventions identified in the articles, the need for training and strengthening of the respiratory muscles and cough training followed by the clearance of secretions stands out, whilst also recognising the need for individualisation. Another key area is the recommendation to develop an exercise programme to improve aerobic and cardiopulmonary fitness, once again tailored to the individual. Last but not least, the educational aspect aimed at improving lifestyle habits, both in preparation for the surgical procedure and, as an ultimate goal, to reduce anxiety and maximise the client's participation during recovery.

DISCUSSION

Patient education in the pre-operative period is recommended and essential, and forms part of the protocols, notably the ERAS programme (Enhanced Recovery After Surgery). This programme aims to improve and accelerate post-operative recovery through evidence-based healthcare⁽⁴⁰⁾. Patient education is necessary and important to ensure patient participation from the outset of treatment, focusing on aspects related to health literacy and the patient's behavioural and emotional skills⁽¹⁴⁾.

In this regard, the results of our study emphasised the importance of empowerment during the pre-operative phase, as an integral part of the transition process for individuals undergoing abdominal surgery. Essentially, it was found that the systematisation of ER interventions would have an impact on improving the individual's condition during the post-operative period. Given that the development of these strategies would need to take place at home, the establishment of a pre-operative ER consultation would be necessary. A study conducted in 2020 on pre-operative ER consultations clarified that these should be underpinned by multidisciplinary rehabilitation programmes,

yielding significant results in the management of pain, distress and anxiety, as well as in empowering the patient regarding the surgical process⁽⁶⁾. They also emphasised the impact on reducing the average length of hospital stay and improving acceptance of and adherence to the tailored, individual rehabilitation programme. Thus, rehabilitation offers advantages when carried out during the waiting period for surgery, a time when patients can influence their own treatment outcomes. This period is a crucial time for them to improve their lifestyle choices.

Functional capacity can also be improved, leading to a slower decline in this function in the post-operative period, and possibly to a faster recovery – findings also observed in our study. On the other hand, a lack of exercise can negatively affect the healing process, due to reduced synthesis of anti-inflammatory mediators at the surgical site, and not just functional aspects related to the muscle⁽³³⁾.

Another finding related to the importance of the pre-operative consultation in reducing the length of hospital stay. We also noted that, as a result of this, there would be a reduction in costs associated with abdominal surgery. A study conducted in 2023 confirmed these findings, paying particular attention to the need to implement strategies to reduce complications, notably anxiety and post-operative pain⁽¹⁴⁾. It is also important to highlight that Breda and Cerejo, in their study, demonstrated that the pre-operative consultation in this context promotes patient-centred care and the onset of interaction between healthcare professionals and the patient, ensuring that needs—particularly those relating to information—are met, which in turn is reflected in the quality of care provided⁽⁴¹⁾.

It is imperative that healthcare institutions are aware of this issue and that ERs focus their ER interventions on the pre-operative phase as well. The

SNRN's Regulations on Competences also provide for these situations in the exercise of their role, stating that this professional is responsible for designing ER plans, with a view to promoting the adaptive capacities necessary for the transition processes between health and illness and/or disability⁽¹⁴⁾.

According to the articles included, various interventions were evaluated and several physical and respiratory training programmes, as well as different pre-operative teaching methods, were examined, with implications for post-operative complications, length of hospital stay and the impact on the client's quality of life.

Within the scope of interventions aimed at optimising respiratory function and strengthening the respiratory muscles, three relevant domains were identified to address this area: inspiratory muscle training, through deep breathing exercises; abdominal breathing training, using half-closed-lip breathing and the clearance of secretions; and, finally, training to strengthen the respiratory muscles and build resistance to fatigue, with the aim of preventing atelectasis and improving gas exchange.⁽⁴²⁾

It was demonstrated that undertaking respiratory rehabilitation in the pre-operative period was crucial for achieving positive outcomes, specifically in the reduction of the incidence of post-operative pulmonary complications. Furthermore, an international study from 2023, which sought to evaluate the efficacy of pre-operative respiratory rehabilitation on the clinical outcome of patients undergoing abdominal surgery, clearly demonstrated that there was a significant difference in the average length of stay in the intensive care unit, as well as in the incidence of post-operative pulmonary complications. Conversely, it demonstrated a reduction in post-operative complications⁽⁴³⁾.

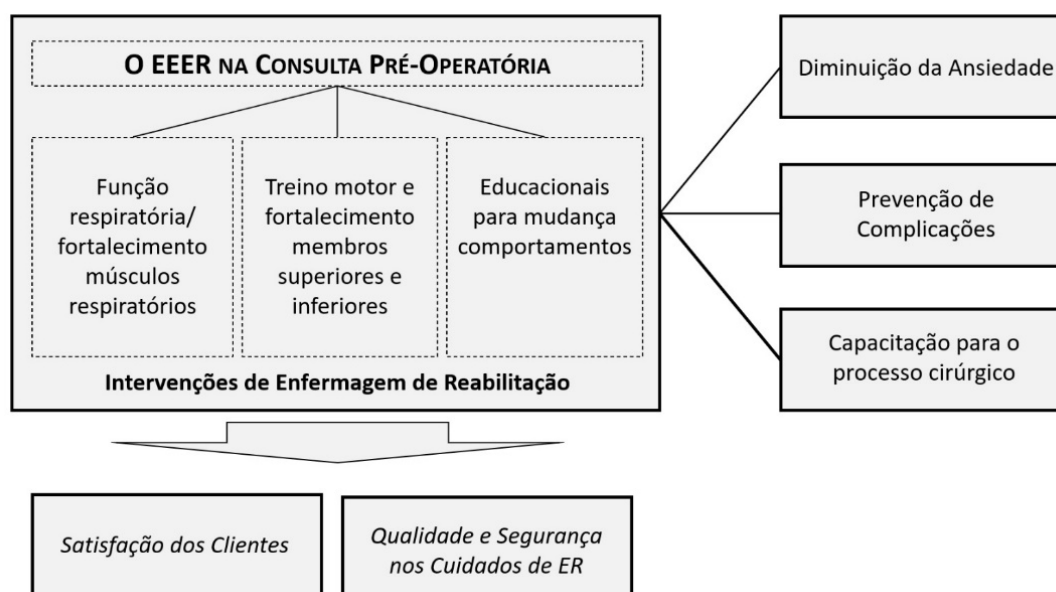
With regard to interventions for motor training and strengthening of the upper and lower limbs, aerobic training, exercises to improve aerobic and cardiopulmonary fitness, walking, and nutritional supplementation were highlighted. In 2020, an international study showed that, during the pre-operative period, people who remained physically active through physical activity were less likely to develop complications in the post-operative period and reported greater satisfaction with the care provided⁽⁴⁴⁾. Another study found that SNRN intervention, particularly in the pre-operative period, in addition to respiratory rehabilitation interventions, was fundamental to motor rehabilitation through aerobic exercise, thereby aiding the patient's recovery and reducing complications, whilst improving functional capacity and quality of life and preventing readmissions⁽⁴⁵⁾.

Finally, in educational interventions aimed at behavioural change, we highlight aspects related to empowering the individual, with a view to adopting healthy lifestyles, both during the pre-operative period and following discharge. Furthermore, the

need to assess the level of health literacy of both the individual and their carer became evident. Employing strategies to assess knowledge of the entire process, as well as the transition to the individual's home environment, in collaboration with the carer, are fundamental aspects to be identified during the pre-operative consultation. For these interventions to be successful, the SNRN should employ effective communication tailored to the individual's needs. According to a study conducted in 2016, effective communication can make a difference to a person's outcomes, understanding, emotional well-being and psychological adjustment⁽⁴⁶⁾. They also emphasise that pre-operative education can help alleviate anxiety and improve self-care skills. Our findings corroborate the 2022 study in that it is evident that educational intervention had a positive impact on the post-operative outcomes of individuals undergoing abdominal surgery⁽⁴⁷⁾.

Figure 3 summarises the discussion of the study's main findings

Figure 3 – Summary of findings



We believe that the SNRN, in accordance with its social mandate, plays a prominent role in this context, contributing to the promotion of independence, satisfaction and the preservation of personal autonomy, thereby raising the profile of these professionals' work.

This waiting period leading up to the day of the surgical procedure is a crucial and pivotal time, not only for making the most of the time available, but also for the success of the surgery.

CONCLUSION

Pre-rehabilitation, carried out through the pre-operative consultation, is an essential tool for preventing complications in patients undergoing abdominal surgery, as it improves functional capacity and nutritional status prior to surgery. This process provides fundamental support for post-operative recovery and helps to mitigate the deterioration associated with the surgical procedure. It is important to emphasise that optimising the rehabilitation process for patients undergoing abdominal surgery begins in the pre-operative period. This stage allows the patient to be involved in their own transition from health to illness, identifying factors that facilitate or hinder recovery and clarifying what the surgery means for them. In this way, the patient's active role in their own care is promoted even before the surgery takes place.

During a pre-operative respiratory rehabilitation consultation, the respiratory rehabilitation specialist should focus their intervention on three distinct yet complementary and essential areas: optimisation of respiratory function, motor training and muscle strengthening, and education and

behavioural change. Despite the relevance of these contributions, a limitation is the scarcity of international studies describing specific interventions or care in respiratory rehabilitation. Although the specialism of rehabilitation is present in only a few countries, there are national studies that highlight its importance. However, it is necessary to expand the scientific evidence base on this topic in order to validate the benefits of the SNRN's role in the pre-operative consultation and improve the quality of care provided to patients undergoing abdominal surgery. It is therefore essential to step up research in this area to support evidence-based practice. This approach will enable the development of a multi-professional pre-operative consultation capable of meeting the needs of patients scheduled for abdominal surgery in terms of preparation, counselling and follow-up.

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