

Mapping guidelines for adult patients in the cardio-oncology outpatient clinic: scoping review protocol

*Guías de mapeo para pacientes adultos en la clínica ambulatoria de cardiooncología:
protocolo de revisión del alcance*

*Mapeamento de orientações aos pacientes adultos do ambulatório de cardio-oncologia:
protocolo de revisão de escopo*

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Abstract

The aim was to map the available evidence on guidelines for adult patients seen in cardio-oncology outpatient clinics. This is a scoping review protocol, developed according to the methodological guidelines of the Joanna Briggs Institute and reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews. Studies presenting guidelines, recommendations, and care directed at patients in outpatient cardio-oncology follow-up with a risk or possibility of cardiotoxicity will be included. Time or language filters will not be applied to broaden the retrieval of publications. The search will be conducted in the following databases and repositories: BDNF, LILACS, MEDLINE/PubMed, Web of Science, Scopus, Embase, and the Digital Library of Theses and Dissertations. The findings will be presented through flowcharts, tables, and concept maps, identifying and synthesizing the relevant evidence. This protocol is expected to support the development of scoping, contributing to the support of clinical practices and the construction of educational technologies aimed at the care of patients in cardio-oncology.

Descriptors: Cardio-Oncology; Outpatient Care; Health Literacy; Cardiology; Oncology.

Resumen

El objetivo fue mapear la evidencia disponible sobre guías para pacientes adultos atendidos en consultas externas de cardiooncología. Este es un protocolo de revisión del alcance, desarrollado según las guías metodológicas del Instituto Joanna Briggs y reportado según la extensión PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) para revisiones exploratorias. Se incluirán estudios que presenten guías, recomendaciones y cuidados dirigidos a pacientes en seguimiento ambulatorio de cardiooncología con riesgo o posibilidad de cardiotoxicidad. No se aplicarán filtros de tiempo ni de idioma para ampliar la recuperación de publicaciones. La búsqueda se realizará en las siguientes bases de datos y repositorios: BDNF, LILACS, MEDLINE/PubMed, Web of Science, Scopus, Embase y la Biblioteca Digital de Tesis y Disertaciones. Los hallazgos se presentarán mediante diagramas de flujo, tablas y mapas conceptuales, identificando y sintetizando la evidencia relevante. Se espera que este protocolo respalde el desarrollo de la planificación del estudio, contribuyendo al apoyo de las prácticas clínicas y a la creación de tecnologías educativas orientadas a la atención de pacientes en cardiooncología.

Descriptores: Cardiooncología; Atención Ambulatoria; Alfabetización en Salud; Cardiología; Oncología.

Resumo

Objetivou-se mapear as evidências disponíveis sobre orientações para pacientes adultos atendidos em ambulatório de cardio-oncologia. Trata-se de um protocolo de revisão de escopo, elaborado conforme as diretrizes metodológicas do Joanna Briggs Institute e reportado conforme as Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews. Serão incluídos estudos que apresentem orientações, recomendações e cuidados direcionados a pacientes em acompanhamento ambulatorial em cardio-oncologia com risco ou possibilidade de cardiotoxicidade. Não serão aplicados filtros de tempo ou idioma, a fim de ampliar a recuperação de publicações. A busca será realizada nas bases de dados e no repositório: BDNF, LILACS, MEDLINE/PubMed, Web of Science, Scopus, Embase e Biblioteca Digital de Teses e Dissertações. Os achados serão apresentados por meio de fluxograma, tabela e mapa conceitual, identificando e sintetizando as evidências relevantes. Espera-se que este protocolo subsidie o desenvolvimento da revisão de escopo, contribuindo para o apoio às práticas clínicas e para a construção de tecnologias educacionais voltadas ao cuidado de pacientes em cardio-oncologia.

Descritores: Cardio-Oncologia; Pacientes Ambulatoriais; Literacia em Saúde; Cardiologia; Oncologia.

Introduction

Cardio-oncology has established itself in recent decades as a strategic and interdisciplinary area dedicated to the prevention, early detection, and management of cardiovascular complications associated with cancer treatment. Advances in antineoplastic therapies, including chemotherapy, targeted therapies, immunotherapies, and radiotherapy, have significantly contributed to increased survival rates for cancer patients; however, this has been accompanied by a rise in the incidence of cardiovascular toxicity, which can manifest as ventricular dysfunction, heart failure, arrhythmias, hypertension, thromboembolic events, and accelerated coronary artery disease¹⁻³.

Recent guidelines recommend cardiovascular risk assessment before treatment, monitoring during cancer therapy, and long-term follow-up, highlighting the need for the organization of specialized services, systematic screening for cardiotoxicity, risk stratification, and multidisciplinary integration in the care of cancer patients with cardiovascular risk^{1,2}. Furthermore, international consensus has proposed standardized definitions for cardiovascular toxicities related to antineoplastic therapies, contributing to greater conceptual uniformity and improved clinical practice⁴.

Cancer and cardiovascular diseases are among the leading causes of global morbidity and mortality, forming part of the group of chronic non-communicable diseases. Strategies proposed by the World Health Organization and national public policies emphasize the importance of health promotion, risk factor control, and active patient engagement in care, recognizing that the effectiveness of interventions depends, among other factors, on the ability to understand and use health information^{5,6}.

In this context, health literacy plays a central role, being understood as the ability to access, understand, evaluate, and apply health information to make appropriate decisions^{7,8}. Evidence demonstrates an association between low levels of literacy and poorer adherence to therapy, worse control of risk factors, greater use of emergency services, and increased mortality⁹. In patients followed up in cardio-oncology services, this skill becomes even more relevant, considering the complexity of the therapeutic regimens, the need for outpatient monitoring, and the early recognition of signs and symptoms of cardiotoxicity¹⁻⁴.

Educational technologies are emerging as strategic tools to broaden access to qualified information to promote self-care and improve treatment adherence. However, it is observed that educational strategies specifically aimed at patients followed in cardio-oncology services are scattered throughout the literature, hindering the systematization of evidence that could support the development of educational technologies based on updated clinical recommendations.

Given this context, this study aims to map guidelines, care strategies, and educational approaches described in the literature for adult patients followed in cardio-oncology outpatient services, with a view to supporting the development of evidence-based educational technology.

Methodology

This is a scoping review protocol, structured according to the methodological guidelines of the Joanna Briggs Institute (JBI)¹⁰ and reported in accordance with the recommendations of PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews)¹¹, to synthesize evidence available in the literature. The study protocol was registered on the Open Science Framework (OSF) platform, under DOI: 10.17605/OSF.IO/HGZVW.

The review was developed following the steps proposed by the JBI: defining the research question and eligibility criteria, identifying relevant studies, selecting studies, extracting and organizing data, analyzing and synthesizing results, and presenting the findings^{10,12}.

Research Question

The research question was formulated based on the PCC¹² strategy, with Population (P): patients treated in cardio-oncology outpatient clinics, Concept (C): guidelines, directives, and educational strategies aimed at cardio-oncology patients, and Context (C): outpatient care. Based on this structure, the question was defined as "What guidelines, care strategies, and educational approaches are described in the literature for cardio-oncology patients, with a view to supporting the development of educational technology?".

Eligibility

Primary studies with qualitative, quantitative, or mixed approaches, as well as secondary review studies, available in open access, without time restrictions or language limitations, will be included. Studies with adult participants aged 18 years or older that address clinical practices, care strategies, guidelines, protocols, or specific recommendations for the care of cardio-oncology patients in an outpatient setting will be considered. Studies conducted on animals, children, pregnant women, and duplicate studies will be excluded.

Identifying Studies

The search strategy will focus on identifying primary studies, theses, and dissertations. A pilot search was conducted in April 2025 in Medline/PubMed to explore keywords and identify relevant terms on the topic. In May 2025, further searches were conducted to refine the strategy and adapt it to each database and repository. Before finalizing the review, an update search will be conducted to identify recently published studies and ensure the inclusion of relevant evidence. Searches will be conducted in the Medline/PubMed, BDENF, LILACS, Web of Science, Scopus, and Embase databases. Grey literature will be searched in the Digital Library for Theses and Dissertations (BDTD). Standardized descriptors from Medical Subject Headings (MeSH) and Health Sciences Descriptors (DeCS) will be used, combined with Boolean operators "AND" and "OR", including "Cardio-oncology", "Outpatients", "Health Literacy", among other specific features of each database.



Figure 1. Search strategies. Rio de Janeiro, RJ, Brazil, 2025

Search No.	Search strategy	Studies identified
1#	"health literacy"[MeSH Terms] OR ("health"[All Fields] AND "literacy"[All Fields]) OR "health literacy"[All Fields]	42,014
2#	"outpatient s"[All Fields] OR "outpatients"[MeSH Terms] OR "outpatients"[All Fields] OR "outpatient"[All Fields] OR ("outpatient s"[All Fields] OR "outpatients"[MeSH Terms] OR "outpatients"[All Fields] OR "outpatient"[All Fields]) OR ("outpatients"[MeSH Terms] OR "outpatients"[All Fields] OR ("out"[All Fields] AND "patients"[All Fields]) OR "out patients"[All Fields]) OR ("outpatients"[MeSH Terms] OR "outpatients"[All Fields] OR ("out"[All Fields] AND "patient"[All Fields]) OR "out patient"[All Fields])	899,057
3#	"cardio oncology"[MeSH Terms] OR "cardio oncology"[All Fields] OR ("cardio"[All Fields] AND "oncology"[All Fields]) OR "cardio oncology"[All Fields] OR ("cardio oncology"[MeSH Terms] OR "cardio oncology"[All Fields] OR ("cardiovascular"[All Fields] AND "oncology"[All Fields]) OR "cardiovascular oncology"[All Fields]) OR ("cardio oncology"[MeSH Terms] OR "cardio oncology"[All Fields] OR "cardiooncology"[All Fields]) OR ("cardio oncology"[MeSH Terms] OR "cardio oncology"[All Fields] OR ("cardio"[All Fields] AND "oncology"[All Fields]) OR "cardio oncology"[All Fields])	28,717
	1# AND 2# AND 3#	1,283
No language restrictions and no time limit		

Selection of Studies

Figure 1 presents the initial search strategy in Medline/PubMed. The search results will be exported in RIS format and imported into Rayyan software, where automatic duplicate removal will be performed. Next, the studies will be screened in two stages. In the first stage, two independent, blinded reviewers will read the titles and abstracts of the identified studies, selecting those that meet the eligibility criteria. In the second stage, the full texts of potentially eligible studies will be read in full to confirm their inclusion in the review. In case of disagreement between the reviewers, a third reviewer will be consulted for a final decision. The included studies will be organized and managed using EndNote software. To ensure consistency in the process, a meeting will be held beforehand with the

reviewers to present the protocol, clarify the eligibility criteria, and standardize the data extraction process¹³.

Data Extraction and Organization

Data extraction will be conducted using a structured spreadsheet in Microsoft Excel adapted from the model proposed by JBI, in order to meet the research objective. Information will be collected on authors, year of publication, country of origin, study objective, type of study, results found, conclusion, and limitations, as shown in Figure 2. As this is a scoping review, no critical evaluation of the methodological quality of the included studies will be performed, as recommended by JBI for this type of review. Disagreements will be resolved by consensus or through a third reviewer.

Figure 2. Instrument for data extraction. Rio de Janeiro, RJ, Brazil, 2025

No.	Author/ year	Country	Objective	Type of study	Results found	Conclusion	Limitations	Relevant observations	Decision (include/ exclude)	Reason for exclusion (if applicable)	Citation/ reference Vancouver
1											
2											
3											

Data Analysis and Synthesis

The extracted data will be organized into a table and concept map, and analyzed qualitatively through thematic content analysis¹⁴, conducted in three stages, focusing on the categorization and organization of the findings. This approach will include: (1) pre-analysis, with an initial reading of the included studies, aiming at familiarization with the content; (2) exploration of the material, with organization of the data extracted from the selected articles; and (3) treatment of the results, with identification and categorization of the main themes, allowing the highlighting of practices, recommendations, and gaps in the literature. The synthesis of the data will be presented descriptively and narratively, as recommended for scoping reviews, without conducting in-depth interpretive analysis. This synthesis will

allow for a clear visualization of the aspects most addressed in the literature, as well as the identification of practices, recommendations, and gaps related to the outpatient care of cardio-oncological patients, focusing on subsidies for the development of digital educational technologies^{15,16}.

Since this is a scoping review based on secondary data available in the literature, there was no need to submit it to the Research Ethics Committee in accordance with CNS Resolution No. 466/2012.

Expected Results

This protocol is expected to support the development of a transparently conducted scoping review, contributing to the synthesis of evidence that can support the identification of best practices, recommendations, and

gaps in the literature, thus improving the quality of outpatient care. The findings may guide the development of evidence-based educational materials, as well as the planning of personalized, patient-centered interventions.

Furthermore, they may direct future research focused on content validation, instructional design, and the evaluation of the effectiveness of technologies in cardio-oncological care.

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