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CLINICAL SIMULATION IN HEALTH EDUCATION FOR PEOPLE WITH CARDIOMETABOLIC DISEASES: SCOPING REVIEW PROTOCOL

Simulação clínica na educação em saúde de pessoas com doenças cardiometabólicas: protocolo de revisão de escopo

sSimulación clínica en la educación de personas con enfermedades cardiometabólicas: protocolo de revisión de alcance

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RESUMO

Objetivo: mapear, na literatura científica, as evidências disponíveis sobre a utilização da simulação clínica na educação em saúde de pessoas com doenças cardiometabólicas. **Métodos:** protocolo de revisão de escopo, segundo as recomendações do JBI. A busca de estudos será realizada em 12 bases. Dois pesquisadores independentes farão a seleção e análise dos estudos. Um terceiro revisor solucionará as divergências. Os dados serão analisados de forma descritiva e apresentados em figuras e quadros. **Resultados:** espera-se destacar a aplicabilidade, a viabilidade e a efetividade dessa metodologia na educação da referida população. O mapeamento poderá contribuir para o planejamento de estratégias mais eficazes na oferta de educação em saúde para pessoas com doenças cardiometabólicas, além de orientar pesquisas futuras sobre simulação voltada para pacientes.

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Conclusão: os resultados do presente estudo poderão subsidiar pesquisadores e profissionais de saúde no planejamento, implementação e avaliação da simulação como estratégia educacional para pessoas com doenças cardiometabólicas.

DESCRITORES: Doença crônica; Treinamento por simulação; Educação de pacientes como assunto; Educação em saúde.

ABSTRACT

Objective: to map the available evidence on the use of clinical simulation in health education for people with cardiometabolic diseases in scientific literature. **Method:** scoping review protocol according to the recommendations of the Joanna Briggs Institute. Studies will be searched for in 12 databases. Two independent researchers will select and analyze the studies. A third reviewer will resolve any disagreements. The data will be analyzed descriptively and presented in figures and charts. **Results:** it is expected to highlight the applicability, feasibility and effectiveness of this methodology in educating this population. This study may contribute to the development of more effective health education strategies for people with cardiometabolic diseases, as well as guiding future simulation-based research aimed at patients. **Conclusion:** the results of this study may assist researchers and healthcare professionals in planning, implementing and evaluating simulation as an educational strategy for people with cardiometabolic diseases.

DESCRIPTORS: Chronic disease; Simulation training; Patient education as topic; Health education.

RESUMEN

Objetivo: mapear, en la literatura científica, la evidencia disponible sobre el uso de la simulación clínica en la educación para la salud de las personas con enfermedades cardiometabólicas. **Métodos:** protocolo de revisión de alcance, según las recomendaciones del Joanne Briggs Institute. La búsqueda de estudios se realizará en 12 bases de datos. Dos investigadores independientes seleccionarán y analizarán los estudios. Un tercer revisor resolverá los desacuerdos. Los datos se analizarán de forma descriptiva y se presentarán en figuras y gráficos. **Resultados:** se espera destacar la aplicabilidad, factibilidad y efectividad de esta metodología en la educación de esta población. El mapeo puede contribuir a la planificación de estrategias más efectivas en la provisión de educación em salud de las personas con enfermedades cardiometabólicas, además de orientar futuras investigaciones sobre simulación dirigida a pacientes. **Conclusión:** los resultados del presente estudio pueden apoyar a investigadores y profesionales de la salud en la planificación, implementación y evaluación de la simulación como estrategia educativa para personas con enfermedades cardiometabólicas.

DESCRIPTORES: Enfermedad crónica; Entrenamiento simulado; Educación del paciente como asunto; Educación en salud.

INTRODUCTION

Cardiometabolic diseases (CMD) are a serious public health problem due to their high incidence and prevalence rates, as well as their associated morbidity and mortality. They generate significant costs for health systems around the world due to health complications and premature deaths. These diseases involve chronic conditions such as diabetes mellitus (DM), systemic arterial hypertension (SAH), cardiovascular diseases (CVD), dyslipidemia, obesity, chronic kidney disease (CKD) and fatty liver disease.[1-2]

In 2021, risk factors such as high blood pressure and high fasting glucose levels were responsible for 10.8 million and 2.3 million cardiovascular deaths, respectively.[3] In the United States, obesity, dyslipidemia and non-alcoholic fatty liver disease (NAFLD) were the most prevalent CMDs in young adults, with respective prevalence rates of 35.7%, 37.3% and 31.1%.[1] In Brazil, the situation is also concerning, with a prevalence of overweight of 61.4%, and a prevalence of diagnosis of hypertension, obesity, and diabetes of 27.9%, 24.3%, and 10.2%, respectively.[4]

Such chronic diseases are associated with both non-modifiable risk factors, such as heredity, age and sex, and modifiable risk factors, such as an unhealthy diet, a sedentary lifestyle, alcoholism, smoking and being overweight. These risk factors contribute to an increased disease burden in the world population and the occurrence of acute and chronic complications. Consequently, they generate biopsychosocial repercussions and damage the quality of life and well-being of those affected.[5]

This challenging scenario highlights the importance of educational initiatives that encourage the population to adopt a healthy lifestyle and take responsibility for their own health and wellbeing. Such interventions can contribute to

achieving the third Sustainable Development Goal (SDG) by providing the population with innovative, participatory and emancipatory approaches. In this context, health education mediated by clinical simulation can be a more effective way of empowering clients and strengthening their autonomy, providing opportunities to develop the knowledge, attitudes and skills necessary for self-care.[6-7]

The simulation is configured as a teaching-learning methodology comprising the stages of pre-briefing, the scenario itself, and debriefing. It can be low, medium, or high fidelity. It can also adopt various approaches, such as using mannequins or anatomical models, simulating with actors or standardized patients, and role-playing. Methods based on information and communication technologies (ICT) are also possible, such as computer simulation and telesimulation.[8]

Studies show that simulation can have positive effects such as acquiring knowledge, developing leadership and communication skills, improving teamwork and critical reflective thinking, and enhancing reflective learning, decision-making and confidence. Furthermore, this learning method provides safe and positive learning environments that bring patients closer to real-life activities, helping them to develop the skills necessary for disease management.[9]

It is also important to note that scientific evidence suggests that simulation-based education is a useful and effective strategy for people with diabetes, providing satisfaction and increased self-efficacy while reducing anxiety.[9] Other studies have also demonstrated the effectiveness of this approach in improving knowledge of diabetes management and reducing glycated haemoglobin.[10] It has also been shown to enhance adherence to self-care behaviors related to a healthy diet, physical activity, and blood glucose self-monitoring.[11]

Considering this, the importance of new scientific research addressing the use of clinical simulation in health education for people with CMD is reinforced. It is also important to note that research on the use of simulation with students and healthcare professionals has advanced significantly in recent years. However, research using this methodology with patients is still scarce. No review studies or similar study protocols were identified in the Open Science Framework (OSF), the Database of Abstracts of Reviews of Effects (DARE), the Cochrane Library, or other databases or libraries.

Therefore, it is necessary to address this gap and advance knowledge about health education for people with CMD, with a particular focus on mapping the evidence on clinical simulation for this audience. Thus, the guiding question arises: What scientific evidence is available in literature on the use of clinical simulation in health education for people with cardiometabolic diseases?

New research on this topic could contribute to this field of study and help consolidate knowledge in this area. Furthermore, it may provide new scientific evidence to assist researchers and healthcare professionals in developing educational interventions for people with CMD based on clinical simulation.

It is also emphasized that they will foster the relevance and feasibility of using simulation in the education of people with CMD, benefiting patients with the identification and availability of an innovative and effective educational strategy that can be implemented in various health services, which can promote better management and coping with the health-disease process, as well as the achievement of better health and quality of life outcomes. The objective of this study was therefore to map the available evidence on the use of clinical simulation in the health education of people with CMD in scientific literature.

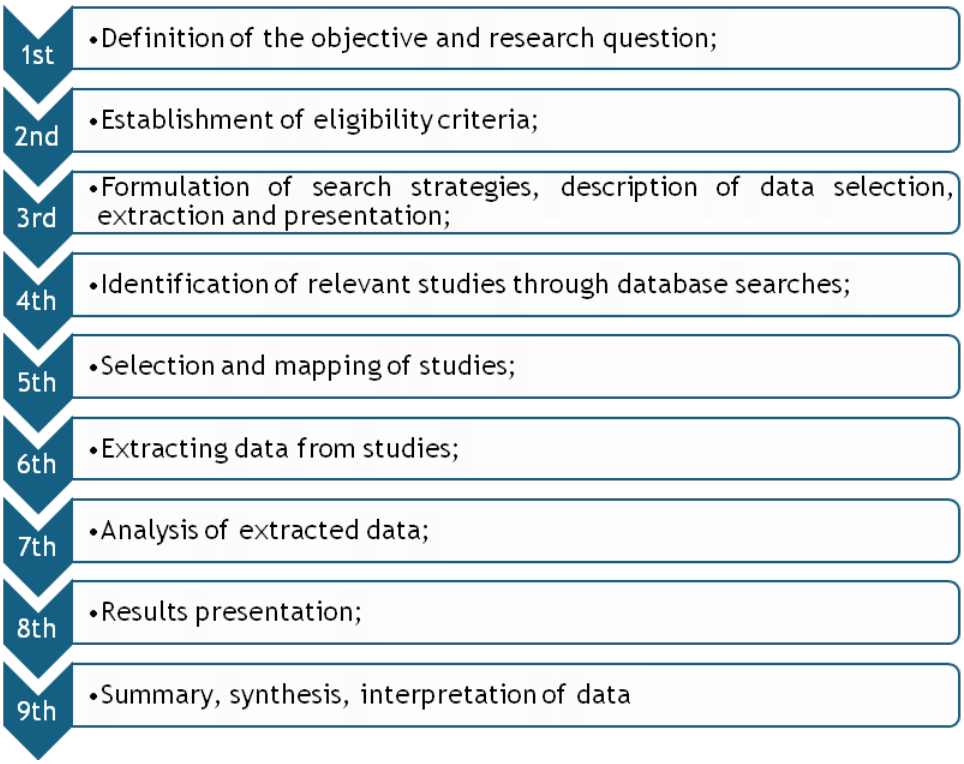
METHOD

Study Type

This scoping review protocol was prepared in accordance with the JBI's recommendations.[12] In addition, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) checklist[13] will be followed to report the results of the review and ensure methodological rigor. A scoping review, also known as a mapping review or scoping study, aims to effectively and rigorously map and synthesize existing knowledge and concepts on a given topic.[12]

The review protocol has been registered with the Open Science Framework (OSF) (https://osf.io/kgxe3; DOI: https://doi.org/10.17605/OSF.IO/KGXE3). The steps presented in Figure 1 will be followed to conduct the study:

Figure 1 – Steps for operationalizing the scope review. Redenção, CE, Brazil, 2025



Source: Steps of the scope review according to JBI.[12]

Definition of the study objective and research question

Given that clinical simulation has emerged as an innovative and promising strategy for educating people with CMD but has not yet been widely explored in literature, the aim of this study is to review the existing literature on the subject. The study therefore aims to map the available evidence on the use of clinical simulation in the health education of people with CMD in scientific literature.

To this end, the research question was defined using the Population Concept Context (PCC) strategy.[12] Thus, the following were considered:

- P (population): people with cardiometabolic diseases (e.g. diabetes, hypertension, cardiovascular diseases, dyslipidemia, obesity, chronic kidney disease, fatty liver disease and non-alcoholic fatty liver disease), regardless of variables such as age, gender or ethnicity.
- C (concept): use of clinical simulation in the education of people with CMD. Clinical simulation is a methodology that creates, recreates, and/or represents situations, experiences, objects and real subjects, providing learners with a more interactive and immersive approach to reality.[14-15]
- Co (Context): Health education. At this point, health education was conceptualized as a set of pedagogical practices based on client participation and emancipation, with the aim of raising awareness and encouraging co-responsibility in facing individual and collective health situations and issues that affect quality of life and well-being.[16] Thus, simulation was considered an effective training method for various aspects, such as self-care, self-efficacy, and self-management procedures for disease and coping with the health-disease-care process.

The following guiding question was therefore adopted: What scientific evidence is available in literature on the use of clinical simulation in health education for people with cardiometabolic diseases?

Establishment of the eligibility criteria

The following inclusion criteria will be adopted: primary articles; thesis; dissertations; experience reports; expert opinions/consensuses; and reflection studies addressing the use of clinical simulation in the health education of people with CMD. These studies must be published without time or language restrictions and be fully available.

The exclusion criteria are: review studies, study protocols, letters to the editor, editorials, abstracts published in event proceedings, book chapters and duplicate studies.

Data sources and formulation of search strategies

The search for studies will be conducted in the following databases: Medical Literature Analysis and Retrieval System Online (PubMed/MEDLINE), Scopus, Web of Science (WOS), the Cochrane Library, the Scientific Electronic Library Online (SciELO), the Cumulative Index to Nursing and Allied Health Literature (CINAHL) via EBSCOhost, the Education Resources Information Center (ERIC), the Latin American and Caribbean Literature on Health Sciences (LILACS), and the Nursing Databases (BDENF). Access to these databases will be via the Federated Academic Community (CAFe) on the CAPES Periodicals platform.

Grey literature will be consulted on the following portals: The Catalogue of Thesis and Dissertations of the Coordination for the Improvement of Higher Education Personnel (CAPES); the Brazilian Digital Library of Thesis and Dissertations (BDTD); the Catalogue of Thesis and Dissertations of ProQuest; and the Open Access Scientific Repositories of Portugal (RCAAP). It is also important to note that references from studies included in the scoping review will be consulted to identify relevant research that was not identified in the databases, and which may be included in the study sample.

Search strategies were developed using terms and keywords from Health Sciences Descriptors (DeCS), Medical Subject Headings (MeSH), Emtree (Emsabe Headings), CINAHL Headings and the ERIC Thesaurus. For each database, terms from different descriptor sources were combined to define broad search strategies. Furthermore, keywords identified in previous studies on the subject were used as recommended by researchers, with the aim of creating more comprehensive and specific search strategies.[17] The terms were combined using the Boolean operators 'AND' and 'OR', as shown in Chart 1.

Chart 1 - Databases and respective search strategies. Redenção, CE, Brazil, 2024

Databases	Search strategies
PubMed/Medline and Cochrane Library	*("Cardiometabolic Disease" OR "Cardiometabolic Diseases" OR "Chronic Disease" OR "Chronic Condition" OR "Chronic Diseases" OR "Chronic Illness" OR "Chronic Illnesses" OR Diabetes OR "Diabetes Mellitus" OR "Diabetes Mellitus, Type 2" OR "Type 2 Diabetes" OR "Type 2 Diabetes Mellitus" OR "Diabetes Mellitus, Type 1" OR "Type 1 Diabetes" OR "Type 1 Diabetes Mellitus" OR Hypertension OR "High Blood Pressure" OR "High Blood Pressures" OR "Cardiovascular Diseases" OR "Cardiovascular Disease" OR "Cardiac Events" OR "Cardiac Event" OR "Adverse Cardiac Event" OR "Adverse Cardiac Events" OR Obesity OR Overweight OR Dyslipidemias OR Dyslipidemia OR Dyslipoproteinemias OR Dyslipoproteinemia OR "Kidney Diseases" OR "Chronic Kidney Disease" OR "Chronic Renal Disease" OR "Renal Insufficiency, Chronic" OR "Chronic Kidney Insufficiency" OR "Chronic Renal Insufficiency" OR " Non-alcoholic Fatty Liver Disease" OR "Nonalcoholic Fatty Liver Disease" OR "Non alcoholic Fatty Liver Disease" OR "Fatty Liver Disease" OR "Nonalcoholic Steatohepatitis" OR "Nonalcoholic Steatohepatitides" OR "Nonalcoholic Fatty Liver" OR NAFLD) AND ("Education, Patient" OR "Patient Education" OR "Therapeutic Patient Education" OR "Patient Education as Topic" OR "Education of Patients" OR "Health Education" OR "Community Health Education") AND (Simulation OR "Clinical Simulation" OR "Simulation Training" OR "Simulated Training" OR "Training, Simulation" OR "In Situ Simulation" OR "Interactive Learning" OR "Simulation Education" OR "Simulation-based Learning" OR "Simulation Based Learning" OR "High Fidelity Simulation Training" OR "Patient simulations" OR Telesimulation OR "Virtual Simulation")*
Web of Science	*("Cardiometabolic Disease" OR "Cardiometabolic Diseases" OR "Chronic Disease" OR "Chronic Diseases" OR "Chronic Condition" OR "Chronic Illness" OR "Chronic Illnesses" OR Diabetes OR "Diabetes Mellitus" OR "Diabetes Mellitus, Type 2" OR "Type 2 Diabetes Mellitus" OR "Diabetes Mellitus, Type 1" OR "Type 1 Diabetes Mellitus" OR Hypertension OR "High Blood Pressure" OR "Cardiovascular Diseases" OR "Cardiovascular Disease" OR "Cardiac Events" OR "Cardiac Event" OR "Adverse Cardiac Event" OR "Adverse Cardiac Events" OR Obesity OR Overweight OR Dyslipidemias OR Dyslipidemia OR "Chronic Kidney Disease" OR "Chronic Renal Disease" OR "Chronic Kidney Insufficiency" OR "Chronic Renal Insufficiency" OR "Non-alcoholic Fatty Liver Disease" OR "Nonalcoholic Fatty Liver Disease" OR "Fatty Liver Disease" OR "Nonalcoholic Steatohepatitis") AND ("Patient Education" OR "Therapeutic Patient Education" OR "Patient Education as Topic" OR "Education of Patients" OR "Health Education" OR "Community Health Education") AND (Simulation OR "Clinical Simulation" OR "Simulation Training" OR "Simulated Training" OR "In Situ Simulation" OR "Interactive Learning" OR "Simulation Education" OR "Simulation Based Learning" OR "Patient simulations" OR Telesimulation OR "Virtual Simulation")*

Databases	Search strategies
SciELO, LILACS, BDENF and ERIC	*("Cardiometabolic Disease" OR "Cardiometabolic Diseases" OR "Chronic Disease" OR "Chronic Condition" OR "Chronic Diseases" OR "Chronic Illness" OR "Chronic Illnesses" OR Diabetes OR "Diabetes Mellitus" OR "Diabetes Mellitus, Type 2" OR "Diabetes Mellitus, Type 1" OR Hypertension OR "High Blood Pressure" OR "High Blood Pressures" OR "Cardiovascular Diseases" OR "Cardiovascular Disease" OR Obesity OR Overweight OR Dyslipidemias OR Dyslipidemia OR "Chronic Kidney Disease" OR "Chronic Renal Disease" OR "Renal Insufficiency, Chronic" OR "Chronic Kidney Insufficiency" OR "Chronic Renal Insufficiency" OR "Non-alcoholic Fatty Liver Disease" OR "Nonalcoholic Fatty Liver Disease" OR "Non alcoholic Fatty Liver Disease" OR "Fatty Liver Disease" OR "Nonalcoholic Steatohepatitis" OR "Nonalcoholic Steatohepatitides") AND ("Patient Education" OR "Therapeutic Patient Education" OR "Therapeutic Education" OR "Health Education" OR "Patient Education as Topic" OR "Education of Patients" OR "Community Health Education" OR "Community Health Education") AND (Simulation OR "Clinical Simulation" OR "Simulation Training" OR "Simulated Training" OR "In Situ Simulation" OR "Simulation Education" OR "High Fidelity Simulation Training" OR "Patient Simulations" OR Telesimulation OR "Virtual Simulation")*
Scopus and Embase	*("Cardiometabolic Disease" OR "Cardiometabolic Diseases" OR "Chronic Disease" OR "Chronic Disease" OR "Chronic Illness" OR Diabetes OR Diabets OR "Diabetes Mellitus" OR "Diabetes Mellitus, Type 2" OR "Type 2 Diabetes" OR "Type 2 Diabetes Mellitus" OR "Diabetes Mellitus, Type 1" OR "Type 1 Diabetes" OR "Type 1 Diabetes Mellitus" OR Hypertension OR "Arterial Hypertension" OR "Systemic Hypertension" OR "High Blood Pressure" OR "High Blood Pressures" OR "Cardiovascular Diseases" OR "Cardiovascular Disease" OR "Cardiovascular Disorder" OR Obesity OR Overweight OR Dyslipidemias OR Dyslipidemia OR Dyslipoproteinemias OR Dyslipoproteinemia OR Dyslipaemia OR Dyslipidaemia OR "Kidney Disease" OR "Renal Disease" OR "Kidney Disorder" OR "Kidney Failure" OR "Renal Failure" OR "Kidney Insufficiency" OR "Renal Insufficiency" OR "Chronic Kidney Failure" OR "Chronic Kidney Disease" OR "Chronic Renal Disease" OR "Renal Insufficiency, Chronic" OR "Chronic Kidney Insufficiency" OR "Chronic Renal Insufficiency" OR "Nonalcoholic Fatty Liver" OR "Non-alcoholic Fatty Liver Disease" OR "Fatty Lipidosis" OR "Nonalcoholic Fatty Liver Disease" OR "Non-alcoholic FLD" OR "Fatty Liver" OR "Fatty Liver Disease" OR "Nonalcoholic Steatohepatitis" OR "Non Alcoholic Hepato-steatosis" OR "Non Alcoholic Liver Steatosis") AND ("Education, Patient" OR "Patient Education" OR "Therapeutic Patient Education" OR "Patient Education as Topic" OR "Education of Patients" OR "Health Education" OR "Community Health Education") AND (Simulation OR "Clinical Simulation" OR "Simulation Training" OR "Simulated Training" OR "Training, Simulation" OR "Simulation-based Training" OR "In Situ Simulation" OR "Interactive Learning" OR "Simulation Education" OR "Simulation-based Learning" OR "Simulation Based Learning" OR "Simulation-based Education" OR "High Fidelity Simulation Training" OR "Patient Simulations" OR "Patient Simulations" OR "Standardized Patient" OR "Standardized Patients" OR Telesimulation OR "Virtual Simulation")*
CINAHL via EBSCOhost	*("Cardiometabolic Disease" OR "Cardiometabolic Diseases" OR "Chronic Disease" OR "Chronic Condition" OR "Chronic Diseases" OR "Chronic Illness" OR "Chronic Illnesses" OR Diabetes OR "Diabetes Mellitus" OR "Diabetes Mellitus, Type 2" OR "Type 2 Diabetes" OR "Type 2 Diabetes Mellitus" OR "Diabetes Mellitus, Type 1" OR "Type 1 Diabetes" OR "Type 1 Diabetes Mellitus" OR Hypertension OR "Cardiovascular Diseases" OR "Cardiovascular Disease" OR Obesity OR Overweight OR Dyslipidemias OR Dyslipidemia OR Hyperlipidemia OR "Kidney Diseases" OR "Renal Disease" OR "Renal Disease" OR "Renal Insufficiency" OR "Renal Failure" OR "Kidney Failure" OR "Kidney Insufficiencies" OR "Kidney Insufficiency" OR "Renal Insufficiency, Chronic" OR "Chronic Kidney Insufficiencies" OR "Chronic Kidney Insufficiency" OR "Chronic Renal Insufficiencies" OR "Chronic Renal Insufficiency" OR "Fatty Liver" OR "Nonalcoholic Fatty Liver Disease" OR "Nonalcoholic Steatohepatitis") AND ("Patient Education" OR "Therapeutic Patient Education" OR "Patient Education as Topic" OR "Education of Patients" OR "Health Education" OR "Community Health Education" OR " Education, Health") AND (Simulation OR Simulations OR "Simulation Methods" OR "Clinical Simulation" OR "Simulation Training" OR "Simulated Training" OR "In Situ Simulation" OR "Simulation Education" OR "Simulation-based Learning" OR "Simulation Based Learning" OR "High Fidelity Simulation Training" OR "Patient Simulations")*
ProQuest	*("Cardiometabolic Disease" OR "Cardiometabolic Diseases" OR "Chronic Condition" OR "Chronic Diseases" OR "Chronic Illness" OR "Chronic Illnesses" OR Diabetes OR "Diabetes Mellitus" OR "Diabetes Mellitus, Type 2" OR "Diabetes Mellitus, Type 1" OR Hypertension OR "High Blood Pressure" OR "High Blood Pressures" OR "Cardiovascular Diseases" OR "Cardiovascular Disease" OR Obesity OR Overweight OR Dyslipidemias OR "Kidney Diseases" OR "Chronic Kidney Disease" OR "Chronic Renal Disease" OR "Renal Insufficiency, Chronic" OR "Chronic Kidney Insufficiency" OR "Chronic Renal Insufficiency" OR " Non-alcoholic Fatty Liver Disease" OR "Nonalcoholic Fatty Liver Disease" OR "Non alcoholic Fatty Liver Disease" OR "Fatty Liver Disease" OR "Nonalcoholic Steatohepatitis" OR "Nonalcoholic Steatohepatitides") AND ("Patient Education" OR "Therapeutic Patient Education" OR "Patient Education as Topic" OR "Education of Patients" OR "Health Education") AND (Simulation OR "Clinical Simulation" OR "Simulation Training" OR "Simulated Training" OR "In Situ Simulation" OR "Interactive Learning" OR "Simulation Education" OR "Simulation-based Learning" OR "Simulation Based Learning" OR "Patient Simulations")*

Databases	Search strategies
BDTD	(“Doenças Cardiometabólicas” OR “Doença Cardiometabólica” OR “Doença Crônica” OR “Doenças Crônicas” OR “Condição Crônica” OR “Condições Crônicas” OR Diabetes OR “Diabetes Mellitus Tipo 2” OR “Diabetes Mellitus Tipo 1” OR Hipertensão OR “Hipertensão Arterial” OR “Hipertensão Arterial Sistêmica” OR “Pressão Arterial Alta” OR “Pressão Sanguínea Alta” OR “Doenças Cardiovasculares” OR Obesidade OR Sobrepeso OR Dislipidemia OR “Insuficiência Renal” OR “Insuficiência do Rim” OR “Doença Renal Crônica” OR “Doenças Crônica do Rim” OR “Insuficiência Crônica do Rim” OR “Insuficiência Crônica Renal” OR “Insuficiência Renal Crônica” OR “Hepatopatia Gordurosa não Alcoólica” OR “Doença Hepática Gordurosa não Alcoólica” OR “Esteato-Hepatite não Alcoólica”) AND (“Educação do Paciente” OR “Educação de Pacientes” OR “Educação Terapêutica do Paciente” OR “Educação Terapêutica” OR “Educação de Pacientes como Assunto” OR “Educação em Saúde” OR “Educar para a Saúde” OR “Educação para a Saúde” OR “Educação para a Saúde Comunitária” OR “Educação Sanitária”) AND (Simulação OR “Simulação Clínica” OR “Treinamento por Simulação” OR “Aprendizado Interativo” OR “Aprendizagem Interativa” OR “Simulação Realística” OR “Treinamento Simulado” OR “Treinamento com Simulação de Alta Fidelidade” OR “Simulação de Paciente”)
CAPES Catalog	“Educação em Saúde” AND Simulação
RCAAP	Simulation AND “Health education”

Source: The Author (2025)

Description of data selection, extraction and presentation

The studies retrieved from the databases will initially be exported to Rayyan, a free website that allows duplicate studies to be identified and deleted, and articles to be selected and analyzed by two or more researchers independently.[18]

After export, duplicate studies will be identified and excluded. Then, the initial screening of publications will be carried out by reading the titles and abstracts. The studies selected at this stage will undergo thorough reading and analysis, with the eligibility criteria applied to select those that will comprise the final review sample. Please note that the entire study search, screening, selection and analysis process will be carried out by two independent researchers. In cases of divergence, a third reviewer will be consulted to reach a final consensus.

A PRISMA flowchart will be prepared to illustrate the process of selecting studies. This will present the results of the database searches, as well as the justifications for excluding studies.

The studies selected for the final sample will undergo further reading and analysis. Descriptive information will be extracted from these studies, such as title, author(s), publication year, objective, country of origin, journal of publication, study type and sample, and main results. The interventions addressed in the studies will be described based on the type of simulation used (e.g. realistic, virtual or hybrid), the resources used (e.g. technologies employed, such as high- or low-fidelity manikins, virtual/augmented reality or interactive videos), the duration and frequency of simulation sessions and the context of the simulation (e.g. primary care or hospital environment).

Presentation, synthesis and interpretation of data

At this stage, the information extracted from the studies included in the review will be analyzed descriptively, synthesized, organized, and presented in the form of figures, tables, and a narrative summary of the studies’ main findings. This will help to answer the proposed research question and achieve the objective of the review. The findings will also be interpreted and discussed considering the relevant scientific literature on the subject.

CONCLUSION

This study will map and synthesize the scientific evidence on the use of clinical simulation in health education for people with CMD. The findings may highlight the feasibility and effectiveness of this educational methodology for patient education. This synthesis of evidence could support researchers and health professionals in planning, implementing and evaluating this teaching strategy.

The data obtained may indicate the level of learning acquired by participants through simulation experience and reflection on adherence to self-care and self-management of clinical treatment for CMD. Regarding the teaching method specifically, it will be possible to identify the barriers and

facilitators to the application of clinical simulation with patients. This will benefit patients by describing an innovative educational method that enables active, dynamic, interactive, immersive and emancipatory learning.

Furthermore, the results may highlight gaps in literature that could be addressed through new research methodologies, particularly experimental studies aiming to evaluate the effectiveness of this teaching approach in the education of people with CMD.

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