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The Use of Educational Strategies in the Care of People with Chronic Arthritis: A Scoping Review

Lanese Medeiros De Figueiredo

Federal University of Ceará, Brazil

E-mail: lanese_figueiredo@yahoo.com.br

Carlos Alberto Barbosa Neto

Federal University of Ceará, Brazil

Gilberto Santos Cerqueira

Federal University of Ceará, Brazil

Renata De Sousa Alves

Federal University of Ceará, Brazil

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Abstract

Chronic joint diseases affect a large number of people worldwide, with considerable economic and social impact due to compromised quality of life and physical limitations. This scoping review was conducted based on the Joanna Briggs Institute's theoretical framework following the PRISMA 2020 methodology and registered on the Open Science Framework platform (https://osf.io/ksm6j). Based on the initial question about the use of educational technologies in chronic arthritis, searches were conducted in four databases and gray literature, resulting in 35 articles included for full-text reading. Most used educational technologies for patients with rheumatoid arthritis (22), and the rest for inflammatory arthritis (7), osteoarthritis (4), and spondyloarthritis (2). No publications on education for patients with chronic arthritis after arbovirus infections were found, despite it was a global public health problem. This unprecedented scope review, with most articles dedicated to rheumatoid arthritis, shows the lack of information available to patients with chronic joint involvement

from other causes, including infectious ones, a growing cause in recent decades due to the ease of circulation of various viruses. It is concluded that there is a large gap in the area of health education and self-care for patients with chronic arthritis, which needs to be filled in order to minimize the socioeconomic, physical, and emotional repercussions of the disease.

Keywords: Arthritis; Technology; Education; Health; Self-care.

1. Introduction

Musculoskeletal rheumatic diseases cover two broad areas: inflammatory musculoskeletal rheumatic diseases (inflammatory arthritis, autoimmune diseases, and multisystemic diseases) and other musculoskeletal diseases, which include a range of short- and long-term conditions that affect the musculoskeletal system, including many highly prevalent diseases such as osteoarthritis, osteoporosis, and low back pain (Safiri et al., 2021). Rheumatic diseases constitute a group of more than 120 diseases that affect the musculoskeletal system, affecting bones, muscles, tendons, ligaments, and joint cartilage.

Musculoskeletal diseases affect an estimated population of more than 20 million people in the United Kingdom, with one in three people over the age of 20 being treated by the primary healthcare system annually, representing more than 22% of total health problems in the country and the third largest area of healthcare spending, with substantial costs including total arthroplasty and other forms of orthopedic surgery (Versus Arthritis, 2019) .

Arthritis, defined as joint inflammation, affects one in four Americans (Barbour et al., 2017). There is no consensus on how to differentiate between acute and chronic arthritis, with a duration of symptoms of six weeks or more being a reasonable cutoff point for defining chronic symptoms, as this is the time used in the classification criteria for rheumatoid arthritis (RA), the most common form in adults (Helmick et al.,, 2008).

If left untreated, inflammatory arthritis eventually leads to joint damage and deformities. Among adults, arthritis and other rheumatic conditions are the leading cause of disability and are among the top conditions causing work limitations, resulting in considerable economic impacts for the healthcare system and governments.

Between 2019 and 2021, 53.2 million Americans over the age of 18 were diagnosed with arthritis, and half of adults over 65 with chronic diseases also report a diagnosis of arthritis (Fallon et al., 2023). Arthritis is a common comorbidity among adults with heart disease, diabetes, or obesity, and the combination of arthritis and one of these chronic conditions is associated with higher levels of physical inactivity (CDC, 2011).

The two most common causes of chronic polyarthritis are osteoarthritis, especially in the elderly, and RA, which affects at least 0.25% of adults worldwide. Other forms of arthritis include crystal arthritis, autoimmune arthritis, reactive arthritis, and infectious arthritis.

Infectious arthritis varies depending on the type of infection. Pyogenic bacteria and viruses usually cause acute infectious arthritis, while chronic arthritis is usually caused by mycobacteria and fungi. The relationship between microorganisms and joints is well described and has been studied in greater depth due to epidemiological changes related to the rapid spread of viruses around the world (Cross et al., 2014).

Virtually any organism can cause joint infection. Bacteria, viruses, parasites, and fungi can invade the joint cavity and result in various clinical presentations in different age groups. Viruses are known to trigger autoimmunity in genetically susceptible individuals, leading to various connective tissue diseases such as RA, systemic lupus erythematosus, Sjogren's

syndrome, and antiphospholipid syndrome. Fungi, mycobacteria, parasites, and viruses cause chronic arthritis (Mathew et al., 2015).

Among the viruses that can potentially cause chronic arthritis are arboviruses, diseases transmitted mainly by mosquitoes and ticks, which are distributed worldwide but are more prevalent in tropical and subtropical areas. Examples include dengue, Zika, and chikungunya, with the latter being the most prominent. Chikungunya infection has shown a growing increase in global incidence over the last decade, with outbreaks in several countries. Chikungunya is an arboviral disease considered a neglected tropical disease because it circulates in these tropical and subtropical regions, with the potential to affect more than one billion people, many of whom live in poverty-stricken regions (Goupil & Mores, 2016).

Currently, CHIKV is a major public health problem in the Americas, with enormous economic impact due to direct and indirect costs. Unlike other countries on the continent, Brazil has faced annual CHIKV epidemics. Between December 2013 and June 2023, more than 3.5 million cases (suspected and laboratory-confirmed) of Chikungunya were reported in 50 countries or territories in the Americas (Souza et al., 2024).

CHIKV-induced arthropathy (joint disease) has a considerable impact on the lives of individuals with chronic disease and results in economic losses, especially in developing countries (Bartholomeeusen et al., 2023). Brazil has a high number of CHIKV cases, but studies on the impact of chronic arthralgia caused by CHIKV are rare (Cavalcante et al., 2022).

In patients with chronic diseases, including those with chronic joint pain, educational interventions aim to empower patients to become active agents of their own health. Self-care encompasses the actions that individuals take to lead a healthy lifestyle, manage their chronic diseases, and prevent new diseases (Kennedy et al., 2007).

Perceived self-efficacy refers to beliefs in one's ability to organize and execute the courses of action necessary to produce certain achievements. Belief in one's own ability is a determining factor for behavior change and long-term treatment adherence. Perceived self-efficacy is defined as people's beliefs about their ability to produce designated levels of performance that influence events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves, and behave (Bandura, 1994).

In patients with chronic joint diseases, the implementation of education and intervention programs in care has been an important health strategy applied by multidisciplinary teams.

The use of educational materials as resources in health education is increasingly important in the teaching-learning process, especially in chronic diseases (Moreira et al., 2003).

Educational materials increase patients' knowledge about their disease and adherence to treatment, as well as promoting autonomy and understanding of how their attitudes influence their quality of life. They are also a way of bringing patients closer to the healthcare team by stimulating dialogue between patients and healthcare professionals (Selli et al., 2005).

There is a variety of technologies that can be used by healthcare professionals to creatively

carry out the process of caring and educating, notably Educational Technologies (ET). These technologies encourage the participation of individuals in the educational process, contributing to citizenship and the development of autonomy (Moreira et al., 2017).

The enormous expansion of information about diseases, especially chronic diseases, available to patients through media coverage, the internet, and alternative forms of medical care is transforming the medical landscape, as lay people have access to a growing range of information and ideas about the origins, course, and outcomes of disease and its treatment (Moreira et al., 2014).

Thus, it is necessary to offer patients quality health education, with accurate information presented in an understandable and attractive way.

This scoping review was conceived due to the wide variability in the prevalence of chronic joint disease in adults in the available epidemiological studies and the scarcity of research on educational interventions for patients with chronic arthritis, who suffer considerable repercussions on their quality of life due to the limitations imposed by chronic pain, in addition to the impact on the health system and damage to interpersonal and work relationships. Furthermore, in order to practice self-care, individuals affected by chronic diseases need to acquire knowledge about the characteristics of the disease, its manifestations, therapeutic strategies, and auxiliary treatments available for symptom management and improvement in quality of life, hence the need to identify the possible educational technologies available in recent years for the education of patients with chronic arthritis.

In a preliminary search, a systematic review demonstrated the importance of education for patients with RA (Riemsma et al., 2004) . However, no mapping reviews were found that specifically address the education of patients with chronic arthritis after viral infections, not even for chronic arthritis after Chikungunya. This absence encourages research and updating of knowledge on the subject, with the aim of providing support to patients as well as health professionals.

2. Method

This is a scoping review conducted based on the JBI (Joanna Briggs Institute) Manual for Evidence Synthesis (Aromataris et al., 2024) and reporting recommendations from the Preferred Reporting Items for Systematic Reviews (PRISMA-ScR) checklist, with the protocol registered (https://osf.io/ksm6j) on the Open Science Framework (OSF) platform.

The study was conducted in five stages: 1) identification of the research question;

2) survey of relevant studies; 3) selection of studies according to pre-established criteria;

4) categorization of data; 5) presentation of results.

The Population, Concept, and Context (PCC) strategy was used to construct the research question and complemented with the types of Studies (S) (Table 1). This review included participants (P) with chronic arthritis after Chikungunya, the concept (C) addressed was Care Technologies, the context (C) was Health Services, and the Studies (S) were observational

and experimental, quantitative and/or qualitative. Thus, the following main guiding question was formulated:

- What is the scientific evidence on the use of educational strategies in the care of people with chronic arthritis in health services?

The inclusion criteria considered studies that presented some type of functional instrument or tool applicable or applied to the care of patients with chronic arthritis, published at any time, in English, Portuguese, Spanish, and French. Regarding the type of study, observational and experimental studies, quantitative and/or qualitative, with primary or secondary data were eligible. The exclusion criteria considered letters to the editor, abstracts, studies in the design phase that did not have clear results, and studies that only considered acute arthritis as ineligible.

The search strategy was constructed using controlled vocabulary descriptors selected from the Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH), together with the Boolean operators AND and OR (Table 1).

Table 1. PCCS search strategy

OBJECTIVE/ PROBLEM	**What scientific evidence exists on educational strategies for the care of people with chronic joint disease in health services?**			
	P	C	C	S
EXTRACTION	People with chronic arthritis	Education	Health Services	Types of Studies
CONVERSION	Arthritis	Education	(Identification through reading articles)	(Observational and experimental, qualitative and/or quantitative)
COMBINATION	Arthritis Arthritis Oligoarthritis Oligoarthritis Polyarthritis	Education		
USE	("arthritis" OR "arthritis" OR "oligoarthritis" OR "oligoarthritis" OR "polyarthritis" AND ("Educational Technologies" OR "Instructional Technologies" OR "Instructional Technology")			

Source: Research Data (2025)

The search was conducted in September 2025 using the following databases: *Scientific*

Electronic Library Online (SciELO)*/Web of Science*, *Medical Literature Analysis and Retrieval System Online* (MEDLINE)/PubMed, BVS/Latin American and Caribbean Health Sciences Literature (LILACS), and Science Direct. Potential sources of relevance in the gray literature were consulted on Google Scholar. The number of articles found in each of these databases is detailed in Table 1.

Table 1. Number of articles found in databases

Source of information	Items found	Search date
PUBMED/MEDLINE	43	09/02//25
LILACS/BVS	80	09/02/25
WEB OF SCIENCE	88	09/02/25
SCIENCE DIRECT	3	09/02/25
GOOGLE SCHOLAR	63	09/02/25

Source: Research Data (2025)

The Rayyan reference manager (RAYYAN SYSTEMS INC., 2021), developed by QCRI (Qatar Computing Research Institute), was used to screen the articles obtained from the databases.

Rayyan is systematic review management software used to screen studies and conduct systematic reviews and meta-analyses. It is also available as an app and has been used for other types of reviews beyond the systematic reviews and meta-analyses for which it was originally created (Ouzzani et al, 2016).

The results of each search were imported into Rayyan, and from then on, two independent researchers removed duplicates and selected and screened the studies. Both reviewers had no conflicts of interest. It was standardized that disagreements could be resolved by consensus between the researchers; however, there were no disagreements in this screening. After removing duplicates, the 260 articles were selected by reading the titles and abstracts based on the criteria pre-established in the study. In the first stage, 44 articles were included and read in full to verify their suitability. The articles that were excluded (9) were justified. The references of the included articles were checked to identify other potentially relevant studies. Finally, the identification and selection stages were documented using the *Preferred Reporting Items for Systematic Reviews and Meta- Analyses - Extension for Scoping Reviews* (PRISMA-SrC) flowchart (Tricco et al., 2018) (Figure 1).

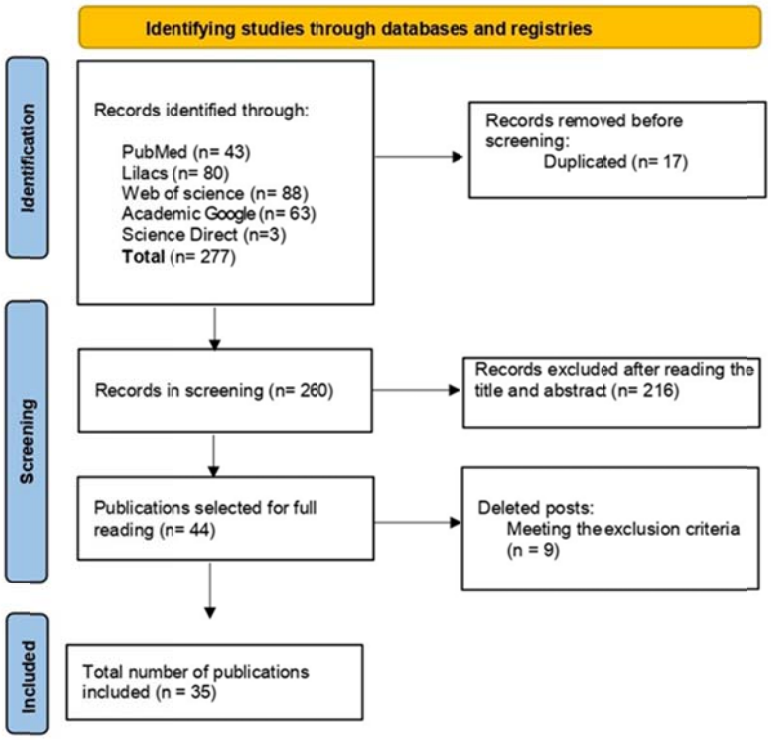

Figure 1. Flow diagram (PRISMA-ScR)

Source: Research Data (2025)

3. Results

The database search yielded a total of 277 articles. After excluding duplicates (17), 260 records underwent screening. The titles and abstracts were then read, after which 233 articles were excluded, leaving 44 articles for analysis. After reading them in full, 9 articles were excluded because they did not present an educational tool for chronic arthritis, leaving 35 articles. No other articles were identified through the reference lists of the included articles. The selected articles are shown in Table 2.

Table 2. Selected articles

	TYPE OF STUDY	AUTHOR/ YEAR/COUNTRY/JOURNAL	OBJECTIVES	TECHNOLOGY USED	CLINICAL APPLICABILITY	MAIN RESULTS
1	CLINICAL TRIAL	Lopez-Olivo,	To evaluate	Printed booklet	The combination of	Regardless of
		M. A., Lin, H.,	the	associated with	video and written	the method,

		Rizvi, T., Barbo	effectiv eness	an educational	material leads to	results
		Barthel, A.,	of two	video,	better results.	improved
		Ingleshwar, A.,	educati onal	compared with		within 6 months
		des Bordes, J.	tools for	the printed		of the
		K. A., Jibaja-	patients with	booklet alone.		educational
		Weiss, M.,	rheuma toid			materials being
		Volk, R. J., &	arthritis (RA),			made available,
		Suarez-	compar ing a			leading to
		Almazor, M. E.	newly			improved
		(2021)/USA /	develop ed			knowledge
		Arthritis care &	video-b ased			about the
		research	tool,			disease.
			includi ng stories and testimo nials, combin ed with a booklet , to the same booklet alone.			
2	CLINICAL TRIAL	Brownlee , J., Sheridan, E., Synnott, A., McCorm ack, A.,	To evaluate the effective ness of a group occupati onal	A 2-hour occupational therapy group intervention to work on self-care and confidence with patients with	Occupational therapy group intervention (Lifestyle Management for Arthritis Group - LMAG) focusing on education and behavior, applied separately to hospitalized patients with inflammatory and degenerative arthritis.	Participant s who completed the study showed an increase in knowledge about joint

		Bell, M., & Fitzgerald, O. (2022)/*IRELAND/Musculoskeletal care*	therapy intervention in a rheumatology rehabilitation setting for inpatients.	inflammatory and degenerative arthritis.		protection immediately after the LMAG intervention and maintained this knowledge 6 weeks after the intervention.
3	CLINICAL TRIAL	Ndosi, M., Johnson, D., Young, T., Hardware, B., Hill, J., Hale, C., Maxwell, J., Roussou, E., & Adebajo, A. (2016)/*UK/Annals of the rheumatic diseases.*	To evaluate the effects of needs-based patient education on self-efficacy, health outcomes, and patient knowledge in people with rheumatoid arthritis (RA).	Self-administered questionnaire (Educational Needs Assessment Tool - ENAT) that allows arthritis patients to prioritize their educational needs.	Patients were randomized to either the intervention group (IG), in which they completed the ENAT and the responses were used by the clinical nurse specialist to guide patient education; or to the control group (CG), in which they received patient education without the use of the ENAT.	The results suggest that needs-based education helps improve patients' self-efficacy and some aspects of their health status.
4	CLINICAL TRIAL	Khoury, V., Kourilovitch, M., & Massardo, L. (2015)/	Development of an online educational program	Written and audiovisual material for a website, based on simple local languages (in Spanish,	Provide physicians and patients with educational material for RA patients, designed with brief interventions, minimal content, and clearly explained, in a variety of formats for the patient to choose from.	To reach more people with RA in Latin America and the

		LATIN AMERICAN AND THE *CARIBBEAN/Clinical rheumatology*, *34 Suppl 1*(Suppl 1), S45-S49.	that meets the needs of most patients with rheumatoid arthritis (RA) in Latin American and Caribbean countries, with an emphasis on the correct and safe use of methotrexate.	including indigenous languages, and Portuguese), which can be printed on one page, with headings and titles that identify the content in a sequence that can be followed as needed.		Caribbean, information should be available in various formats: written, audiovisual, and online, with an emphasis on the correct and safe use of methotrexate.
5	CLINICAL TRIAL	Taibanguay, N., Chaiamnuay, S., Asavatanabodee, P., & Narongroeknawin, P. (2019)*/THAILAND/Patient preference and adherenc*	To evaluate the influence of different methods of patient education on medication adherence in patients with	30-minute targeted counseling and an informative brochure about the disease.	30-minute targeted counseling and an informative disease- specific leaflet in the multicomponent intervention group, and only an informative disease- specific leaflet in the single intervention group.	The use of an informative brochure about the disease, with or without targeted counseling, can also improve medication adherence in patients

		e.	rheumatoid arthritis (RA).			with RA.
6	CLINICAL TRIAL	Zhao, S., & Chen, H. (2019)*/CHINA/ Journal of clinical nursing*.	To evaluate the effectiveness of a health education program through telephone follow-up on the self-efficacy of patients with rheumatoid arthritis (RA).	Health guidance via telephone follow-up at four points in time (intervention group) or only once (control group) after hospital discharge.	Receiving health guidance through telephone follow-up four times after hospital discharge in the intervention group and only once after discharge in the control group.	Home training can improve the effects of self-efficacy in the short and long term by improving patients' knowledge and self-management skills.
7	CLINICAL TRIAL	Pot-Vaucel, M., Aubert, M. P., Guillot, P., Glémarec, J., Berthelot, J. M., Le Goff, B., & Maugars, Y. (2016)*/FRANCE/Joint bone*	To evaluate personalized, predefined goals during a therapeutic patient education (TPE) session for rheumatoid	A specific tool called "Aprender" was used, developed by a medical and paramedical team specializing in PET, illustrated with images showing solutions to three problems represented by the disease.	Apply TEP to solve specific problems in each case of rheumatoid arthritis (RA).	Personalized PTE can better respond to the specific problems of each RA patient.

		spine, *83*(2), 199-206.	arthritis (RA).			
8	CLINICAL TRIAL	Grønning K, Lim S, Bratås O. /NORWAY/Musculoskeletal Care. 2022 Mar;20(1):151-157. doi: 10.1002/msc.1575. Epub 2021 Jun 6.	To investigate whether the educational needs of patients with chronic inflammatory arthritis change over time and which demographic, disease-related, or self-management characteristics are associated with these needs.	Three biweekly group sessions moderated by two nurses, followed by an individual educational session conducted within two weeks after the last group session by one of the moderators.	Combining individual and group education for patients with chronic inflammatory polyarthritis conducted by nurses requires less time from patients and includes the benefit of group learning, in addition to focusing on the individual educational needs of each patient.	The combination of group and individual education for patients with inflammatory arthritis has a long-term effect on patients' overall well-being.

9	CLINICAL TRIAL	Kennedy CA, Warmington K, Flewelling C, Shupak R, Papachristos A, Jones C, Linton D, Beaton DE, Lineker S, Hogg-Johnson S. /CANADA / J Telemed Telecare. 2017 Feb;23(2):197-206	To evaluate two modalities of delivery of an inflammatory arthritis education program ("Prescription for Education" (RxEd)) on improving self-efficacy regarding arthritis and other secondary outcomes.	An in-person videoconference was moderated by a therapist and simulcast via videoconference to six remote sites. The workshop incorporated fundamental principles of patient education and adult learning.	The use of telemedicine technology to deliver an educational program on inflammatory arthritis in rural and remote communities provides an opportunity for people living in these underserved areas to access interprofessional educational programs.	Similar improvements in self-efficacy regarding arthritis and other secondary outcomes (knowledge about arthritis and effective consumption) were observed immediately and six months after the program, both in participants via telemedicine and those attending in person.
10	CLINICAL TRIAL	Cho SK, Kim D, Choi J, Lee S, Bae GE, Kim HK, Yoo D, Sung YK. /SOUTH	To examine the impact of patient education on the satisfaction of patients with	Face-to-face patient education training conducted twice, in two groups, one led	Twenty-minute RA patient education sessions (3 sessions) in two separate groups, one led by nurses and the other by physicians.	Health education for patients with RA improved patient satisfaction and quality of life,

		KOREA/J Rheum Dis.	rheumatoid arthritis (RA) and to compare education conducted by nurses with education conducted by physicians.	by nurses and the other led by physicians.		with comparable satisfaction in education conducted by nurses compared to that conducted by physicians.
11	CLINICAL TRIAL	Vermaak, V., Briffa, N. K., Langlands, B., Inderjeeth, C., & McQuade, J. (2015). /AUSTRALIA/ *BMC musculoskeletal disorders*, *16*, 214.	To determine whether the Rheumatoid Arthritis (RA) Self-Care Program developed by Arthritis Western Australia would achieve early benefits in health-related outcomes and whether these improvements would be maintained for 12 months.	Groups of 8 to 15 participants attended a weekly 2.5-hour session of the RA program, with the same two health professionals, for 6 consecutive weeks, with interrelated and cumulative modules, building on previously learned information.	Implementation of a Motivational Intervention Program for RA with intervention by a healthcare professional offering support and focusing specifically on the disease.	Program participants reported significant improvements in depression and mental health after the intervention, which were maintained during the 12-month follow-up.

12	SYSTEMATIC REVIEW	Zangi, H. A., Ndosi, M., Adams, J., Andersen, L., Bode, C., Boström, C., van Eijk-Hustings, Y., Gossec, L., Korandová, J., Mendes, G., Niedermann, K., Primdahl, J., Stoffer, M., Voshaar, M., van Tubergen, A., & European League Against Rheumatism (EULAR) (2015). /EUROPE/ *Annals of the rheumatic diseases*, *74*(6), 954-962.	Develop evidence-based recommendations for patient education (PE) with inflammatory arthritis, identify the need for further research, and determine the educational needs of healthcare professionals to provide evidence-based PE.	Systematic review of the literature and development of 8 recommendations for patient education.	Interactive counseling, either in combination with group sessions or in individual consultations with a competent healthcare professional.	The use of PE strategies in people with inflammatory arthritis results in improved adherence to treatment regimens, behavioral change, use of self-management strategies, and well-being.

13	CLINICAL TRIAL	Prado, M. G., Iversen, M. D., Yu, Z., Miller Kroouze, R., Triedman, N. A., Kalia, S. S., Lu, B., Green, R. C., Karlson, E. W., & Sparks, J. A. (2018). *USA/Arthritis care & research.*	To assess knowledge about rheumatoid arthritis (RA) risk factors among unaffected first-degree relatives and to study whether a personalized RA education tool increases knowledge about risk factors.	Personalized Risk Estimator for RA (PRE- RA) online tool for RA risk (genetics, autoantibodies, demographics, and behaviors) that provides information about risk factors.	After using the PRE-RA tool, participants were randomly assigned to a comparison group (standard RA education), a PRE- RA group, or a PRE-RA Plus group (PRE-RA and an individual session with a trained healthcare professional).	First-degree relatives had little knowledge about RA risk factors. A personalized online RA education tool successfully increased knowledge about disease risk factors.
14	CLINICAL TRIAL	Claassen, A. A. O. M., van den Ende, C. H. M., Meesters, J. J. L., Pellegrom, S., Kaarls-Ohms, B. M., Vooijs, J., Willemsen-de Mey, G. E. M. P., & Vliet Vlieland	To evaluate the effect of an "on-demand" distribution strategy, compared to a "no-request" distribution strategy, of a care information leaflet on clinical outcomes in patients with rheumatoid arthritis (RA).	Care information booklet and clinical outcomes in patients with RA.	Distribution of a care booklet among RA patients in two hospitals in the Netherlands, where 1,000 patients received the booklet by mail, while another 1,000 received an informational letter with the option to request the booklet.	No influence of the distribution strategy (unsolicited or on demand) was found on clinical outcomes, nor on the absolute number of RA patients who eventually used the care guide.

		, T. P. M. (2018). /NETHERLANDS/ *BMC health services research.*				
15	CLINICAL TRIAL	Knudsen, L. R., Lomborg, K., & de Thurah, A. (2021)./*DENMARK/PEC innovation*, *1*, 100004.	Develop a distance learning program (DLP) aimed at patients with rheumatoid arthritis (RA).	DLE program based on multimedia learning theories and educational entertainment, and based on evidence from RA patient education.	Use of a distance learning program for RA patients.	This DLE program is based on solid theoretical knowledge that meets the needs of users and is easy to use.
16	CROSS-SECTIONAL STUDY	Murphy, L. B., Theis, K. A., Brady, T. J., & Sacks, J. J. (2021). /USA/ *Chronic illness*, *17*(3), 217-231.	To study which adults with arthritis received a recommendation from a healthcare professional to participate in a self-management education course and which ones attended.	Telephone survey of US adults with arthritis aged ≥45 years to estimate participation in a self-management education course.	To estimate associations with: receiving a recommendation from a healthcare professional to participate in a self-management education course; and participating in a self-management education course.	For adults with arthritis, a healthcare professional's recommendation to participate in a self-care education course was strongly associated with attendance at that course.

17	CLINICAL TRIAL	Paek SI, Jung SM, Lee J, Kwok SK, Kim WU, Park SH, Ju JH, Sohng KY./SOUTH KOREA/ J Rheum Dis 2018;25:255-262.	To examine the effects of an individualized education program using the targeted treatment strategy for rheumatoid arthritis (RA T2T) in patients with moderate to severe rheumatoid arthritis.	The intervention consisted of a 9- month educational program, delivered by nurses, comprising 3 monthly sessions and monthly telephone counseling.	Assessments were performed at the beginning of the study and every 3 months in both groups, but only the intervention group completed the 9-month educational follow-up.	This educational program, using the RA T2T strategy, showed significant benefits in disease activity, fatigue, and quality of life in patients with moderate to severe rheumatoid arthritis.
18	CROSS-SECTIONAL STUDY	Sierakowska, M., Klepacka, M., Sierakowski, S. J., Pawlak-Buś, K., Leszczyński, P., Majdan, M., Olesińska, M., Romanowski, W., Bykowska-	To assess the relationship between knowledge deficit about rheumatoid arthritis (RA) and the degree of pain, fatigue, morning	ThePolish version of the Educational Needs Assessment Tool (Pol-ENAT) was used.	Assessment of the educational needs of patients with early RA using the Pol-ENAT tool in the areas of pain management, movement, feelings, characteristics of arthritis, self-care,	The study demonstrates that health education should be directed at young patients with early RA, expanding their knowledge about self-care.

		Sochacka, M., Jeka, S., Sierakowska, J. A., Ndosi, M., & Krajewska-Kułak, E. (2016)./POLAND)/*Annals of agricultural and environmental medicine : AAEM*, *23*(2), 361-367.	stiffness, disease activity assessment, as well as functional efficiency.		treatment, and support systems.	
19	CLINICAL TRIAL	Austin, K.; Prasad, R. /UNITED KINGDOM/ *Annals of the Rheumatic Diseases*, 2020. EULAR.5032	To offer a patient education (PE) program to a group of patients with psoriatic arthritis (PsA), using a multidisciplinary team (MDT) approach, and to assess whether this improved patients' knowledge, skills, and confidence in managing their PsA.	A 2.5-hour multidisciplinary education session for adult patients with PsA, covering an overview of PsA, medications used, the role of physical a	Interactive sessions were held in small groups to allow for informal discussions and questions to the multidisciplinary team. Written materials, including various brochures and online resources, were also provided.	After a 2.5-hour educational session, 97% of patients, including those with a disease duration of more than 10 years, reported improvement in knowledge, skills, and confidence in managing APs.

20	CLINICAL TRIAL	Gerlich, C., Andreica, I., Küffner, R., Krause, D., Lakomek, H. J., Reusch, A., & Braun, J. (2020). /GERMANY/ *Zeitschrift fur Rheumatologie*, *79*(8), 737-748.	Evaluating the effectiveness of a 5-hour basic training program for patients with rheumatoid arthritis (RA) in specialized rheumatology centers	5-hour basic training program psychologists.	Basic 5-hour training with 249 RA patients at 3 assessment points, addressing knowledge about the disease and its treatment, as well as the health competence	The basic training program provides a good foundation for the development of additional interventions aimed at improving attitudinal, and disease parameters.
21	CROSS-SECTIONAL STUDY	Graham, A. S., & Williams, A. E. (2016). /UNITED KINGDOM/ Experiences. *Musculoskeletal care*, *14*(1), 37-46.	To identify the educational needs of people with rheumatoid arthritis (RA) in relation to content, timing, mode of delivery, and perceived barriers to implementing a foot health education program.	Online questionnaire with six sections covering foot health education, plus a free-text comments section.	Patients diagnosed with RA and able to read and write to respond to an online questionnaire.	The importance of foot health in people with RA should be emphasized to both patients and healthcare professionals, providing opportunities to discuss foot health during regular medical appointments.
22	CROSS-SECTIONAL STUDY	Jönsson, T., Eek, F., Dell'Isola, A., Dahlberg, L. E., & Ekvall Hansson, E.	To evaluate a structured self-management program based on	Swedish national program "Better Management of	Patients with knee and hip OA included in a self-management program	Offering the self-management program as first-line treatment for patients with OA may reduce

		(2019). /SWEDEN/	education and exercise for	Patients with Osteoarthritis" (BOA), with three	that includes education and exercise, with evaluation after 3	
		PloS one, *14*(9), e0222657.	patients with knee or hip osteoarthritis (OA),	components: training of physical therapists and occupational therapists; training of patients through a self-management program; collection of results before and after treatment in the National Quality Register.	months and 12 months of the program.	the impact of the disease.
23	CLINICAL TRIAL	Lineker, S., Curran, V., Bell, M., Sweezie, R., Badley, E., Brock, G., & Fleet, L. (2019). /CANADA/. *Canadian Journal of Rural Medicine*, *24*(2), 52-60.	Development of an online continuing medical education program to disseminate clinical practice guidelines (CPGs) for arthritis.	Online learning modules were developed for osteoarthritis (OA) and rheumatoid arthritis (RA) using published CPGs adapted for primary care (best practices), contributions from subject matter experts, and a needs assessment.	The program was piloted in two rural/remote areas of Canada, assessing CPG knowledge before, immediately after completing the modules, and at a 3-month follow-up, with primary care participants including family physicians, physical therapists, occupational therapists, and nurses.	The online program has demonstrated that it can provide some of the information that primary care professionals in rural/remote areas need to provide the best care.

24	CLINICAL TRIAL	Zhang, Y., Pi, B., Xu, X., Li, Y., Chen, X., & Yang, N. (2020). /CHINA/ *Psychology research and behavior management*, 1-10.	To explore the effect of narrative medicine-based health education, combined with an online mutual support group, on the physical and mental health of patients with inflammatory bowel disease (IBD).	Traditional and narrative health education groups, and online mutual support groups, associated or not with narrative medicine-based health education.	Patients were randomized into 4 groups: Group 1: health education and routine treatment guidance; Group 2: narrative medicine- based health education; Group 3: participation in an online mutual support group; and Group 4: narrative medicine-based health education combined with an online mutual support group.	Health education based on narrative medicine, combined with an onlin nd mutual support group for patients, is beneficial for the physical and mental health of patients with IBD-associated arthritis.
25	CLINICAL TRIAL	Bain, L., Sangrar, R., Bornstein, C., Lukmanji, S., Hapuhennedige, S., Thorne, C., & Beattie, K. A. (2016). /CANADA/ *Clinical rheumatology*, *35*(9), 2317-2326.	To identify the barriers faced by patients with inflammatory arthritis (IA) in participating in a Therapeutic Education Program (TEP) and to understand how patients overcame perceived barriers.	10-session TEP for individuals with IA conducted between 2010 and 2013.	Questionnaires were distributed to individuals with IA who participated in at least 4 of the 10 TEP sessions, in addition to focus groups to discuss how they overcame perceived barriers.	Participants must first be able to overcome barriers to accessing PETs in order to benefit from resources designed to improve specific knowledge about the disease, strategies to improve self-efficacy, and social/ professional support.

26	CROSS-SECTIONAL STUDY	Knudsen, L. R., Lomborg, K., Hauge, E. M., Zangi, H. A., & de Thurah, A. (2023). /DENMARK/ *Patient education and counseling*, *116*, 107969.	To explore patients' perceptions of digital patient education (PE) and how it contributes to the self-management of rheumatoid arthritis (RA).	Individual interviews based on the "interpretive description" methodology with patients who participated in a randomized clinical trial (WebRA study) that investigated the effects of digital PE.	To evaluate participants in the WebRA study, which developed a digital physical education program, "Know Your Rheumatoid Arthritis," to support self-management in patients with RA.	PE is useful for supporting self-management in RA; however, different forms and combinations of PE should be offered in the future to meet diverse needs throughout the course of the disease.
27	CLINICAL TRIAL	Knudsen, L. R., Ndosi, M., Hauge, E. M., Lomborg, K., Dreyer, L., Aaboe, S., Kjær, M. B., Sørensen, L., Volsmann, L., Christensen, H. M., & de Thurah, A. (2024). /DENMARK AND UNITED KINGDOM/ *Rheumatology (Oxford,*	To evaluate the effectiveness of a new digital patient education (PE) program in improving self-care in patients newly diagnosed with rheumatoid arthritis (RA).	Digital PE (intervention) or face-to-face PE (control) for patients with newly diagnosed RA.	Patients from five rheumatology clinics who were randomly assigned.	The results suggest that digital PE is effective in improving self-efficacy and, consequently, self-care in patients with early RA.

		England), *63*(9), 2547-2556.				
28	QUALITATIVE STUDY IMPLEMENTATIO N IN HEALTH	Knudsen, L. R., Lomborg, K., Hauge, E. M., & de Thurah, A. (2024). /DENMARK/ *BMC health services research*, *24*(1), 1104.	The aim of this study was to explore the crucial perspectives for implementing a digital patient education (PE) program for rheumatoid arthritis (RA) in clinical practice.	The NASSS model (non-adoption, abandonment, scaling up, dissemination, and sustainability) was used to assess the successes and challenges of implementing the digital PE program for RA.	Qualitative discussions in focus groups with nurses, rheumatologists, and department leaders who participated in the study evaluating the effectiveness of the digital PE program, and data from the qualitative study exploring patients' perspectives on the program.	The design and ease of use of the technology, the effectiveness of the program, its availability, and the potential to free up healthcare resources may encourage the implementation of PE for patients with RA.
29	CLINICAL TRIAL	Ram, A., Kovats, A., Ser Foong Ho, D., Cooke, L., Ram, G. P., Gibbs, M. T., Booth, J., Thom, J. M., & Jones, M. D.(2025)/AUST RALIA/ *Musculoskeletal science & practice*, *77*,	To determine the effect of education on exercise-induced hypoalgesia (EIH) on pain during and after exercise in people with knee	15-minute online videoconference of explicit education on HIE or 15 minutes of general education on knee OA for each participating group.	Patients received a resistance exercise session to be performed at home guided by a certified exercise physiologist.	A single exercise session reduces pain in people with knee OA, but this effect was not influenced by

		103314.	osteoarthritis (OA).			prior education about HIE.
30	CLINICAL TRIAL	Ktaib, H. K.; Ahmed, S. A. /IRAQ/Journal of Advance Medical Sciences, *[S. l.]*, v. 4, n. 1, p. 13-18, 2024.	Evaluating the effectiveness of an educational program on self-care for patients with rheumatoid arthritis (RA).	Application of a questionnaire with information on the self-care model.	Patients with RA treated at a rheumatology center at a university hospital.	Patients had low self-care rates in the pre-test, and there was an improvement in the post-test after the implementation of the educational program.
31	QUASI-EXPERIMENTAL PILOT STUDY OF THE PRE- AND POST-EDUCATIONAL INTERVENTION TYPE	BORGES, Lorena C. D.; CHAVES, L. A.; ANDRADE, J. A. et al. /BRAZIL/ Journal of Occupational Therapy of the University of São Paulo, São Paulo, v. 31, n. 1-3, p. 54-59, Jan.-Dec. 2020.	To assess the impact of guidance groups for patients with rheumatoid arthritis (RA) on quality of life and pain.	Pilot clinical trial of intervention in guidance groups that included 15 patients with RA.	Patients diagnosed with RA treated on an outpatient basis at a university hospital.	There was a positive impact of occupational therapy activities Patients with RA.

32	CLINICAL TRIAL	Grønning, K., Lim, S., & Bratås, O. (2019). NORWAY/ *Nursing open*, *7*(1), 326-333.	To investigate changes in self-management and health status of patients five years after patient education (PE) for inflammatory arthritis conducted by nurses.	Three group PE sessions and one individual PE session conducted by nurses.	Norwegian adult patients with inflammatory arthritis who participated in a randomized controlled trial investigating the effects of nurse-led PE.	Patients' self-management skills improved after 5 years.
33	CLINICAL TRIAL	Reaes F. M., Scarcella D. D. S., Almeida, L. C., Suzuki R. M., Rezende M. U. D. /BRAZIL/Acta Ortop Bras [Internet]. 2018 Jan; 26(1); 42-7.	To evaluate the effect of a clinical management program focused on education about hand function in patients with rhizarthritis.	Patients received a book and a DVD containing information on osteoarthritis and lifestyle changes and were instructed to read the material at least three times at home.	Patients participating in the PARQVE Project (Arthritis Project: Regaining Quality of Life through Education, Osteoarthritis Project Recovering Quality of Life through Education) at a university hospital.	Patients with rhizarthritis and multiple arthritis showed improvement in quality of life and grip strength through clinical treatment, an educational program, and fat loss.

34	CLINICAL TRIAL	Rezende, M. U. D. et al./BRAZIL/ Acta Ortopedica Brasileira, v. 25, n.1 p. 18-24, Jan. 2017	To evaluate the effects of a multidisciplin ary educational program in patients with knee osteoarthriti s (KOA).	Use of educational material on KOA, associated or not with two- day lectures on KOA education.	Patients undergoing standard treatment for KOA, undergoing outpatient follow-up at a university hospital.	The education al program with classes improve d the consisten cy of physical activity and the subjectiv e and objective function of patients with KOA.
35	CROS S-SECTI ONAL STUD Y	Graham, A. S., & Williams, A. E. (2016). *Journal of foot and ankle research*, *9*, 13.	To define UK podiatrists' perceptions of foot health education (FHE) provided to patients with rheumatoid arthritis (RA).	An online questionnaire was administered to podiatrists registered with the UK Health and Care Professions Council (HCPC).	UK podiatrists' perceptions of the objectives, content, methods, and effectiveness, timing, and barriers to providing FHE to people with RA.	The importan ce and content of Family Health Educatio n (FHE) for people with RA was determine d.

4. Discussion

Scope reviews are ideal for mapping the available literature on a given subject, providing an overview of the chosen topic and allowing the identification of possible knowledge gaps. When the purpose of the review is to seek all types of existing evidence on a given subject, without the need to find the best evidence, with the aim of mapping all the evidence already produced and assessing its potential, a scope review is most appropriate, especially when the subject has not yet been widely studied.

Chronic joint diseases, in their various etiologies, compromise the quality of life and daily activities of affected individuals. Educational strategies for clarification and guidance are essential for patients to understand the signs and symptoms of the disease and be able to manage their own care, with a direct impact on outcomes.

In this scoping review, most articles address educational strategies for RA (22), and a smaller number address other types of arthritis such as inflammatory arthritis (7), osteoarthritis (4), and spondyloarthritis (2). Of these, 22 studies present the results of clinical trials to assess the effectiveness of an educational technology, 6 are cross- y studies, 1 is a pre- and post-educational intervention pilot study, and 1 is a qualitative study of implementation in health.

One study used a health education program with telephone follow-up that not only improved the self-efficacy of RA patients after the implementation of the educational program, but also maintained this self-efficacy for an additional 3 months (Zhao & Chen, 2019).

No articles were found that addressed education for patients with arthritis caused by Chikungunya or other arboviruses. The chronic joint disease caused by CHIKV has a considerable impact on the quality of life of affected patients, who suffer from painful symptoms for long periods. Through this scoping review, a major gap was found in relation to educational strategies and technologies for the education of patients with chronic joint disease after infection with the Chikungunya virus.

In order to broaden the search, four databases and the gray literature (Google Scholar) were searched. However, even this amplification of the search strategy was not sufficient to find more publications related to educational technologies for patients with chronic arthritis after viral infections, a fact that reinforces the knowledge gap on the subject and the need for further research and investigation in this area.

Most publications available in the literature address clinical manifestations, diagnostic methods, and treatment, with a focus on drug therapies. Empowering patients through education can enable them to be more proactive in seeking more effective and evidence-based medical treatments as early as possible (Vermaak et al., 2015). Health education is one of the key points for health promotion and rehabilitation when the disease is already established, allowing patients to make decisions about their health. Educational interventions that provide only instructive information can lead to better medication adherence (Taybanguay et al., 2019). In chronic joint diseases, which result in prolonged pain, leading to physical limitations that compromise activities of daily living and have implications for mental health, the patient's knowledge about the disease is fundamental for adherence to treatment and, consequently, self-care. Regardless of the chronic condition, the development of a generic set of skills has been shown to be effective in enabling individuals to manage their diseases effectively and improve health outcomes (Lorig et al., 1999).

The result of this scoping review, with articles presenting research mostly on RA, shows that in relation to other causes of chronic joint disease, there is a lack of information and knowledge aimed at the patient, so that they can be an active subject in the management of physical

symptoms, limitations, and the emotional impact caused by the disease. A crucial factor in an individual's ability to overcome barriers to accessing self-care education is readiness for behavioral change, which, in this case, translates into improved self-efficacy in response to education received in a self-management education program (Bain et al., 2016).

In chronic joint disease, a considerable number of patients develop limitations that resulting in impaired mobility and the ability to perform daily activities and reduced work capacity, bringing not only physical repercussions, but also emotional, social, and economic ones. As joint impairment causes pain and limitations in the affected joints, there is a major personal impact on quality of life and impaired abilities, with many of these individuals requiring assistance from family members for activities of daily living, and there is also an increase in absenteeism from work, with consequent socioeconomic implications.

It is therefore important not to neglect the impact of chronic disease on individuals' lives and interpersonal relationships, providing useful information to help them cope with the effects of the disease. It should be noted that the treatment implemented in patients with chronic rheumatic disease brings benefits to a greater or lesser degree; however, it requires time and commitment from both the patient and healthcare professionals (Sierakowska et al., 2016). Healthcare professionals should provide clear and accurate information, scientifically based, in a simple and objective manner so that these individuals can best understand the disease process they are experiencing and manage self-care strategies.

Patient education interventions can enable patients to perform activities more easily and with less pain through education and training (Riemsma et al., 2004). Patients with chronic arthritis need to develop self-care strategies to deal with the chronic disease and all aspects associated with it. Acquiring knowledge about the disease, its characteristics, and available alternatives for symptom relief is essential to respond to and overcome the challenges that arise. Individuals with arthritis typically do not take action regarding their arthritis until it negatively impacts their lives, and are more likely to participate in self-care education programs when their ability to engage in work and domestic activities has been compromised (Murphy et al., 2021). Self-care is closely related to the theory of self- efficacy. Several studies on a wide range of chronic diseases emphasize the importance of self-management, suggesting that skill development is recommended for effective management of one's own health conditions, improving outcomes.

The use of patient-oriented educational technologies allows patients to take a leading role in their care, respecting their needs, preferences, and values. When patients are responsible for their own care and are able to take care of themselves, treatment adherence and effectiveness are higher. Many patient education programs aim to teach patients how to cope with stress and pain or how to manage the consequences of the disease in their daily lives (Riemsma et al., 2004). Thus, the need for research in the area of health education and self-care for patients with chronic arthritis is quite clear.

In Brazil, the Unified Health System absorbs a large part of these people with chronic joint disease, who need long-term follow-up with a multidisciplinary team, requiring chronic medications and complementary therapies for rehabilitation and maintenance of functional

capacity. This situation has repercussions both economically, with increased costs, and in terms of excessive demand. To minimize the burden on the health system, educational measures are extremely important to raise awareness among patients and their families about the disease, in addition to providing essential information to ensure adherence to care and, consequently, a quicker recovery.

In addition to the benefits for patients affected by chronic joint disease, educational interventions can reach healthcare professionals, especially non-specialist physicians, by raising awareness of the need for rational drug prescription, the role of complementary therapies, and the importance of health education to improve patients' quality of life.

Therefore, just as patients can benefit from the use of educational technologies aimed at caring for individuals with chronic joint diseases, healthcare teams can also be trained and empowered using the same type of technology.

5. Final considerations

This scoping review was extremely effective in highlighting the gap in educational technologies for patients with chronic arthritis (Figure 2). Educational interventions in chronic diseases have positive effects on patients' understanding of disease progression, adherence to the proposed treatment, and participation in measures necessary to improve their quality of life. In addition, health education also influences the way healthcare professionals relate to patients, helping them make decisions and choose the most recommended options for managing the disease in a more empathetic and shared manner.

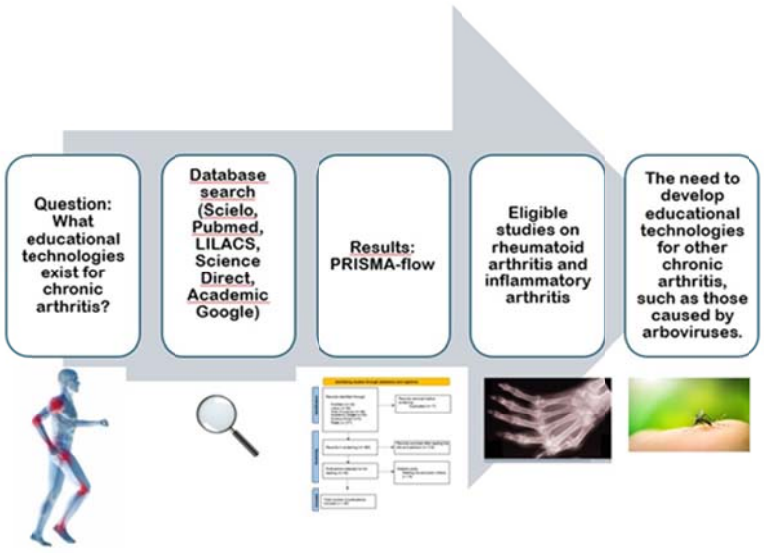

Figure 2. Graph abstract

Source: Research data (2025)

The education of healthcare professionals to improve the processes of care and follow-up for these patients, from the acute phase of the disease, enabling them to implement the treatments recommended in existing protocols, is of fundamental importance in reducing the costs

related to the progression to the chronic phase. This reinforces the need to use educational technologies for individuals with chronic joint diseases, which can also be used to improve the knowledge of healthcare professionals.

It is therefore necessary therefore, to conduct further studies to fill this knowledge gap, especially research using educational tools that can be applied to broaden the understanding of patients affected by chronic arthritis of various etiologies, not just RA, as well as to provide clear and up-to-date information to the healthcare professionals who treat them, contributing to improving the quality of life of affected individuals.

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