

A Scoping Review of Shared Decision-Making and Patient Decision Aids for Patients with Peripheral Arterial Disease

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Abstract: *Objective:* To review the current evidence on shared decision-making (SDM) and patient decision aids (PDAs) for patients with peripheral arterial disease (PAD), focusing on application characteristics, intervention effects, and implementation factors to inform clinical decision support models. *Methods:* A scoping review was conducted following the Joanna Briggs Institute (JBI) framework and PRISMA-ScR guidelines. A systematic search was performed in eight Chinese and English databases, including PubMed, Embase, the Cochrane Library, CINAHL, CNKI, Wanfang, VIP, and the China Biomedical Literature Database, up to 2025. Eligible studies included randomized controlled trials, cross-sectional studies, qualitative studies, and mixed-methods studies. Data were extracted and descriptively synthesized. *Results:* Fifteen studies published between 2011 and 2025 were included, mainly from Europe, North America, and Asia. Studies explored SDM preferences, the development and application of PDAs, decision support tools, SDM training, multimedia decision-making interventions, and patients' experiences. SDM and PDAs improved patient knowledge, participation, decision quality, and satisfaction, while reducing decisional conflict and negative emotions. Implementation was affected by time constraints, information complexity, provider-patient communication, and healthcare system factors. *Conclusion:* SDM and PDA research in PAD is increasing; however, tool standardization and clinical integration remain limited. Future research should develop patient-centered decision-support tools and promote nurse-led SDM models to improve long-term PAD management and patient decision-making experiences.

Keywords: Peripheral arterial disease; Shared decision-making; Patient decision-making aids; Scoping review; Evidence-based nursing

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1. Introduction

Peripheral arterial disease (PAD) is a chronic atherosclerotic vascular disease that affects more than 200 million people worldwide and represents a significant global health burden ^[1]. Depending on clinical staging

(e.g., intermittent claudication or chronic limb ischemia) and lifestyle factors, treatment options vary widely, ranging from supervised exercise therapy and risk factor control to endovascular interventions, open surgery, and even amputation^[2,3]. Each treatment strategy involves trade-offs in terms of symptom relief, healing rates, risk of reintervention, and perioperative complications^[4]. Consequently, there is no single “best” treatment option suitable for all patients, and the management of PAD is a field that places a high priority on patient preferences.

Shared Decision-Making (SDM) is a patient-centered model of clinical communication that emphasizes the active participation of both healthcare providers and patients in the decision-making process. Through information sharing, value clarification, and weighing treatment options, it integrates the best available evidence with the patient’s individual values, preferences, and treatment goals to jointly formulate medical decisions^[5]. Under this model, healthcare providers and patients collaborate to make medical decisions based on the best available scientific evidence as well as the patient’s unique values, preferences, and lifestyle goals^[6,7]. In recent years, patient decision aids (PDAs) and decision support tools (DSTs) have been increasingly developed and applied in the field of vascular disease treatment, with the aim of promoting shared decision-making (SDM), resolving decision conflicts, and enhancing patient understanding^[8,9]. However, despite the growing body of literature on shared decision-making interventions for patients with peripheral artery disease (PAD), the existing evidence remains fragmented. Current studies encompass a variety of research designs, ranging from randomized controlled trials to qualitative interviews, and address vastly different decision-making points, such as choosing between an exercise program and interventional surgery, or determining the site of amputation.

To date, there has been no comprehensive framework that systematically maps the current state of shared decision-making among PAD patients, specific decision-making contexts, intervention characteristics, outcome measures, and implementation barriers. Therefore, a scoping review is warranted. This scoping review aims to systematically synthesize the existing literature on shared decision-making among patients with PAD. By identifying current research gaps and summarizing evidence-based elements of decision support, the findings of this review will provide a solid theoretical foundation for developing targeted patient decision-aid tools and optimizing decision-support frameworks in vascular care and clinical practice.

2. Materials and methods

2.1. Defining research questions

- (1) What is the impact of SDM/PDA, as reported in existing studies, on the quality of patient decision-making and clinical outcomes?
- (2) What are the facilitating factors and barriers affecting the implementation and promotion of SDM and PDA in PAD clinical practice?
- (3) What are the current shortcomings and evidence gaps in SDM and PDA research in the field of PAD, and what areas should future research focus on?

2.2. Literature search

This study has employed the five-step framework developed by Arksey and O’Malley for conducting a literature review, which includes as follows^[10].

- (1) Defining research questions
- (2) Identifying relevant studies
- (3) Defining eligibility criteria for study selection
- (4) Charting data, and
- (5) Synthesizing, summarizing, and reporting results.

2.3. Details

This review used the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses: Scope Reviews) checklist as a reporting guideline ^[11]. The study was registered in the Open Science Framework (OSF) database prior to conducting database searches, with code/number: 10.17605/OSF.IO/6C9MU, and registration date: June 25, 2026.

2.4. Inclusion criteria

Based on the Joanna Briggs Institute (JBI) scope review methodology, this study developed inclusion criteria using the PCC (Participants–Concept–Context) framework ^[12].

(1) Participants (P)

The study population consisted of adult patients (age ≥ 18 years) diagnosed with peripheral arterial disease (PAD). The diagnosis of PAD may be based on clinical criteria, imaging findings, or objective indicators such as the ankle-brachial index (ABI), and includes patient populations at different disease stages, such as those with intermittent claudication and chronic limb ischemia (CLTI). Studies that also involve healthcare providers or family members but focus primarily on PAD patients were included.

(2) Concept (C)

The core concepts addressed in this study are Shared Decision-Making (SDM) and Patient Decision Aids (PDA). Shared Decision-Making refers to the process in which healthcare providers and patients jointly participate in clinical decision-making based on a thorough exchange of information, emphasizing the integration of patient values and preferences, clinical evidence, and physician-patient negotiation ^[7,13]. Patient decision aids include structured tools or interventions designed to support patient participation in healthcare decision-making, such as printed manuals, electronic or online decision-making platforms, decision cards, multimedia educational materials, and decision support tools (DSTs), which are used to enhance patients' understanding of disease information, facilitate value clarification, and assist in treatment option selection ^[5].

(3) Context (C)

The scope of the study context includes the settings and implementation environments where shared decision-making is applied in the management of peripheral arterial disease, without restriction to specific levels of healthcare institutions. Study settings include inpatient wards, outpatient clinics, vascular surgery and cardiovascular specialty clinics, rehabilitation and exercise therapy centers, as well as community or home-based care settings. There are no restrictions on the geographic region; relevant published studies from around the world, including Europe, North America, Asia, and other regions are included to comprehensively reflect the application of SDM and PDA across different healthcare systems.

2.5. Literature search strategy

A systematic search was conducted in Chinese and English databases, including the Cochrane Library,

PubMed, Embase, CINAHL, China National Knowledge Infrastructure (CNKI), Wanfang VIP, and the China Biomedical Literature Database (CBM). Taking PubMed as an example, the search query was as follows: (((“Peripheral Arterial Disease” [Mesh]) OR (Peripheral Arterial Disease [Title/Abstract] OR Arteriosclerosis Obliterans [Title/Abstract] OR Intermittent Claudication[Title/Abstract] OR Lower Extremity Arterial Occlusive Disease[Title/Abstract] OR Peripheral Arterial Occlusive Disease [Title/Abstract]))) AND (((“Decision Support Techniques” [Mesh]) OR (Decision Support Techniques [Title/Abstract] OR Decision Support [Title/Abstract] OR Decision Support Technic* [Title/Abstract] OR Techniques, Decision Support [Title/Abstract] OR Decision Support Model [Title/Abstract] OR Decision Aid* [Title/Abstract] OR shared decision making [Title/Abstract] OR Decision Support Model [Title/Abstract] OR Ottawa decision support framework [Title/Abstract]))).

2.6. Study selection and data extraction

The retrieved literature was imported into the reference management software EndNote 20 for deduplication. The literature screening process was conducted independently by two researchers trained in evidence-based medicine, based on predefined inclusion and exclusion criteria. First, a preliminary screening of titles and abstracts was performed to exclude studies that were clearly irrelevant; subsequently, the full texts of studies that potentially met the criteria were reviewed to determine the final included studies. In the event of disagreement during the screening process, a third researcher or subject-matter expert was consulted for discussion and adjudication to reach a consensus. This study strictly adhered to the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) reporting guidelines to ensure the transparency and reproducibility of the research process ^[11].

Data extraction was performed using a pre-designed data extraction form, completed independently by two researchers and cross-checked. The extracted information included: authors, country and year of publication, study type, participant characteristics, sample size, type of shared decision-making or decision-aid tool (e.g., PDA, DSTs, etc.), intervention content and implementation method, duration of intervention, and primary outcome measures (e.g., decision conflict, knowledge level, anxiety and depression, self-efficacy, and decision quality). All extracted data were further mapped to the PCC research question framework established for this study to support subsequent evidence synthesis and thematic analysis.

3. Results

Through a systematic literature search, this study identified a total of 1,647 relevant articles; after removing duplicates, 1,257 remained. Following an initial screening based on titles and abstracts, 1,168 irrelevant articles were excluded, and 89 articles were ultimately included for full-text retrieval and evaluation. Following further screening based on the inclusion and exclusion criteria, 15 studies were ultimately included; the specific details of the included studies are provided in **Table 1** ^[14–28]. The types of included studies included randomized controlled trials (RCTs), cross-sectional studies, qualitative studies, and mixed-methods studies. The literature screening process is shown in **Figure 1** ^[14–28].

Table 1. Characteristics of the included studies

Study (Country, Year)	Decision context	Study design	Sample size	Intervention/ Exposure	Outcomes	Main findings
de Mik ^[14] (Netherlands, 2020)	Choice of surgical treatment	RCT	113 (56/56)	DSTs including web-based PDA, consultation cards, decision cards, and clinician training vs usual information	SDM quality, knowledge, decisional conflict, QoL	DSTs increased patient involvement and SDM quality.
Stubenrouch ^[15] (Netherlands, 2022)	Treatment choice	Cluster RCT	342 (191/151)	Online PDA for patients plus SDM training and decision cards for clinicians	OPTION-5 score, knowledge, decisional conflict, QoL, treatment choice	Improved SDM quality and patient knowledge; increased preference for conservative management.
Chen ^[16] (China, 2022)	Nursing intervention and health education decisions	RCT	132 (66/66)	SDM-based health education with individualized booklet and nurse follow-up vs routine care	Function, self-management, anxiety/ depression, complications, QoL	Improved self-management, psychological status, QoL, and satisfaction.
Ma ^[17] (China, 2024)	Perioperative nursing plan	RCT	86 (43/43)	SDM nursing based on information asymmetry theory vs routine nursing	Adherence, negative emotions, burden, satisfaction, complications	Improved adherence and satisfaction; reduced psychological burden and complications.
Marcellis ^[18] (Netherlands, 2025)	Individualized supervised exercise therapy for IC	RCT/ implementation study	428 patients; 325 therapists	Decision tool supported discussion of exercise options and lifestyle changes.	Adoption rate, coverage, implementation barriers/ facilitators	Tool adoption was moderate; usability and flexibility facilitated use.
Jayasooriya ^[19] (UK, 2011)	Treatment choice for asymptomatic carotid stenosis	Cross-sectional study	102	IPDAS-based patient information booklet	Treatment preference, decision needs, risk acceptance	Patients preferred medication more often and required decision support.
Corriere ^[20] (USA, 2015)	PAD treatment decisions	Cross-sectional study	81	Routine consultation and postoperative questionnaire	Decision participation, satisfaction, information source	Patients desired shared decisions but reported insufficient involvement and information.
Peters ^[21] (Netherlands, 2022)	Treatment selection	Cross-sectional cohort study	342	Assessment of SDM with decision support tools during consultations	OPTION-5 score and influencing factors	SDM level was low; decision aids and longer consultations improved SDM.
Norvell ^[22] (USA, 2021)	Amputation level selection in CLTI	Mixed-methods study	10 clinicians	AMPREDICT decision support tool usability testing	Usability, functionality, implementation challenges	Tool was acceptable and supported amputation-related decisions.
Smolderen ^[23] (USA, 2021)	Treatment choice for PAD-related claudication	Mixed-methods study	20 patients; 23 clinicians	SHOW-ME PAD PDA (brochure, cards, website, videos)	Acceptability, usability, knowledge, decisional conflict, decision quality	PDA was considered useful, balanced, and understandable.

Corriere ^[24] (USA, 2022)	Treatment decision experience	Qualitative study	51	Interviews on treatment preferences and care experience	Preference-related factors and decision experience	Patients valued outcomes and risks but perceived insufficient participation.
Monaro ^[25] (Australia, 2024)	Conservative care vs major amputation	Qualitative study	14 patients; 13 family members	Interviews after amputation decision	Decision process and perceived outcomes	Decision involved uncertainty, adaptation, and individual preference balancing.
Czerniecki ^[26] (USA, 2024)	Amputation level decision in CLTI	Qualitative study	Patients 22; clinicians 21	AMPDECIDE PDA (paper and online versions)	Acceptability, clarity, values, SDM feedback	Tool improved risk understanding and supported SDM.
Højen ^[27] (Denmark, 2025)	PAD communication and SDM	Qualitative study	16	Exploration of patient-clinician communication barriers	Communication experiences and needs	Patients needed clearer explanations, empathy, and adequate consultation time.
Sjödin ^[28] (Sweden, 2025)	Amputation care and rehabilitation decisions	Qualitative study	15	Standardized amputation care pathway with educational materials and MDT follow-up	Patient experience, communication, SDM participation	Patients wanted active involvement and continuous information support.

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only

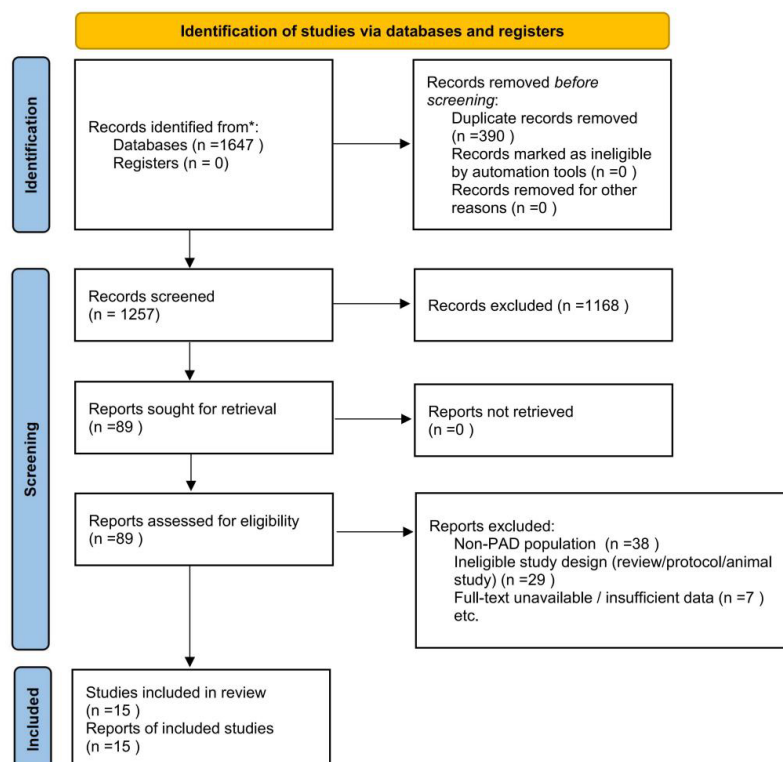


Figure 1. Flowchart of literature screening.

3.1. Basic characteristics of the included studies

The 15 included studies were published between 2011 and 2025 ^[14–28]. The study regions were primarily located in Europe (the Netherlands, the United Kingdom, Sweden, Denmark), North America (the United States), Australia, and Asia (China) ^[14–18, 20–27]. The study participants primarily included patients with peripheral artery disease (PAD), including those with intermittent claudication (IC) and chronic limb-threatening ischemia (CLTI), as well as healthcare professionals and family members.

3.2. Effectiveness of shared decision-making and decision support tools

Overall, the included studies show that shared decision-making (SDM) and patient decision aids (PDA) have a consistent positive effect on the management of patients with peripheral artery disease (PAD) and chronic limb ischemia (CLTI). This is primarily reflected in several aspects, including enhancing the quality of shared decision-making, improving patient knowledge, optimizing treatment choices, and improving psychological and behavioral outcomes.

3.2.1. Improving the quality of shared decision-making

Multiple randomized controlled trials and cross-sectional studies have shown that the use of patient decision aids (PDAs) or decision support tools (DSTs) can significantly improve the quality of the shared decision-making process between healthcare providers and patients ^[14,15,21]. For example, studies using the OPTION scale to assess outcomes showed that after introducing decision cards, counseling tools, and online shared decision-making (SDM) systems, healthcare providers' efforts to guide patients in treatment selection increased markedly, and patient engagement during the counseling process improved significantly ^[14,15].

Most studies report that the use of SDM and PDA can significantly reduce patients' levels of decision conflict and enhance their sense of self-efficacy in decision-making ^[14,15,23,26]. When faced with complex treatment options such as revascularization, physical therapy, and amputation, patients are better able to articulate clear preferences through value clarification tools and risk comparison modules ^[23]. Some studies indicate that the use of PDA may influence patients' final treatment choices, making decisions more individualized and risk-balancing oriented ^[26]. For example, when choosing between treatments for intermittent claudication, patients who used decision-making tools were more likely to opt for conservative or non-invasive treatment options ^[15]. Furthermore, among populations with different risk preferences, patient decision-making behavior is jointly influenced by factors such as age, disease severity, and past health status, suggesting that the SDM process exhibits significant individual variability ^[19].

3.2.2. Improving satisfaction with treatment and care

Some studies indicate that shared decision-making interventions can also improve patient satisfaction with the treatment process and nursing services ^[16,17,20]. In the management of patients with PAD, treatment plans often involve complex choices such as long-term exercise management, medication, revascularization, and amputation; patients' insufficient understanding of the disease and limited involvement may affect their treatment experience ^[15]. By adopting a shared decision-making model, healthcare providers can, through thorough communication, understand patients' treatment goals, lifestyle needs, and value preferences, and provide personalized information support, thereby enhancing patients' acceptance of and engagement with their treatment plans ^[18]. A study by Chen Ruijun et al. showed that a health education program based

on a shared decision-making model, which included the development of personalized health education manuals, regular communication and guidance, and ongoing follow-up by assigned nurses, increased patient engagement in disease management and improved satisfaction with nursing care ^[16]. Meanwhile, the shared decision-making nursing program developed by Ma Huanling et al., based on the theory of information asymmetry, integrates decision support throughout the entire process of patient admission, treatment, and post-discharge care, helping to improve the patient's treatment experience and increase satisfaction with nursing care ^[17]. These studies suggest that shared decision-making is not only a communication model that facilitates clinical decision-making but also an important intervention strategy for strengthening trust between nurses and patients and improving the quality of nursing care.

3.2.3. Enhancing patients' understanding of their condition to improve psychological outcomes and quality of life

Multiple included RCTs consistently demonstrate that PDAs can significantly improve patients' understanding of PAD and treatment options ^[14,15,23]. For example, after introducing online decision-support tools prior to surgery or decision-making, patients' understanding of surgical treatment, conservative treatment, and risk-benefit trade-offs improved markedly ^[19,25]. Some studies indicate that after using decision-making support tools, patients gain a more accurate understanding of the natural course of the disease, treatment risks, and prognostic information, thereby reducing information asymmetry and improving health literacy ^[26].

Some randomized controlled trials (RCTs) have further found that SDM interventions have a positive impact on patients' psychological well-being, including reduced levels of anxiety and depression, enhanced self-management abilities, and improved quality of life ^[14,15]. In nursing-led SDM interventions, patients experienced a lower incidence of complications and higher satisfaction with nursing care, suggesting that shared decision-making not only influences cognitive and decision-making processes but may also have a positive effect on overall nursing outcomes ^[16,17].

3.3. Acceptability and usability of decision support tools

Results from included studies on shared decision-making (SDM) and the development and qualitative evaluation of patient decision-aid tools (PDA/DSTs) indicate that existing decision-support tools generally exhibit high acceptability and good usability ^[16,17,20,22–24,26–28]. Most patients and healthcare providers believe, as demonstrated in the patient- and physician-assessment study of the SHOW-ME PAD tool and the acceptability study of the AMPDECIDE decision support tool that these tools present disease information and treatment options in a clear, structured, and easy-to-understand manner, helping to enhance patients' understanding of the risks and benefits of different treatment options and supporting their participation in the clinical decision-making process ^[23,26].

More than 75% of participants believed that decision-making tools play a positive supportive role in actual clinical decision-making, and the majority of users felt that the tools maintained a good balance of information among different treatment options without exhibiting obvious treatment bias ^[14,15,23]. A cross-sectional cohort study showed that longer consultation times and the use of decision-support tools help improve the level of shared decision-making (SDM) ^[21]. At the same time, usability evaluation results indicate that these tools receive high ratings in terms of interface design, information presentation, and

operational logic; they support the understanding and comparison of complex medical decisions and even outperform industry standards ^[22]. Furthermore, a clinical usability study of the AMPREDICT tool suggests that it offers a good user experience in risk communication and decision support for amputation.

However, some studies have also pointed out certain limitations in their clinical application, including an increased cognitive load due to the large volume of information, the tool prolonging doctor-patient communication time, and issues such as insufficient integration with routine clinical workflows and implementation barriers in certain clinical settings ^[18,21,23,27]. These findings suggest that further optimization is needed in terms of tool simplicity, clinical integration, and adaptability to populations with varying levels of health literacy.

3.4. Factors influencing and barriers to SDM implementation

The key factors influencing the implementation of Shared Decision-Making (SDM) can be summarized into three categories: the patient level, the healthcare provider level, and the system level.

The extent of patient participation in the SDM process is influenced by multiple factors. On the one hand, patients generally prefer to receive clear, easy-to-understand, and personalized information to help them make choices among complex treatment options ^[23]; at the same time, most patients express a willingness to participate in treatment decisions actively ^[15]. However, when faced with situations involving advanced disease progression or highly complex decisions (such as those related to chronic limb ischemia or amputation), emotional stress and psychological burden may significantly impair some patients' ability to comprehend information and participate in decision-making, thereby reducing their capacity for effective engagement in shared decision-making ^[18]. Healthcare provider factors play a crucial role in influencing the implementation of SDM. Studies indicate that time constraints are widespread in clinical practice, limiting the possibility of fully implementing shared decision-making ^[21]. At the same time, the communication styles of some healthcare providers remain dominated by traditional, physician-led models and have not yet fully shifted toward an SDM-oriented approach ^[14]. Furthermore, there is a certain degree of role-perception conflict during actual implementation, meaning that the role of healthcare providers, whether to "guide decision-making" or to "co-decide", remains unclear ^[18]. Meanwhile, the excessive use of technical jargon in some clinical communication processes may impair patients' ability to understand and absorb information ^[27]. At the healthcare system level, the implementation of SDM is also constrained by structural factors. Currently, some medical processes remain relatively fragmented and lack systematic integration, which hinders the continuous implementation of shared decision-making ^[18]. Furthermore, relevant decision-support tools are not sufficiently embedded in clinical pathways, and standardized application processes have not yet been established. At the same time, inadequate follow-up mechanisms and a lack of a comprehensive continuity-of-care system also limit, to some extent, the sustained effectiveness of SDM in the long-term management of chronic diseases ^[27].

4. Discussion

4.1. Current status of shared decision-making and the use of decision aids among patients with PAD

This scoping review included relevant studies from 2011 to 2025. The results show that the number of studies on shared decision-making (SDM) and patient decision aids (PDA) in the field of peripheral artery disease

(PAD) has been on the rise in recent years. This trend is closely related to the preference-dependent nature of treatment decisions for PAD ^[19,20]. Treatment pathways for PAD include supervised exercise, medication, endovascular interventions, and surgery. Different treatment options vary in terms of efficacy, risks, and the probability of reintervention; therefore, clinical decision-making must fully incorporate patients' value preferences. The included studies further indicate that the development of decision support tools is currently largely based on specific disease stages. For example, SHOW-ME PAD is primarily used to support decision-making between conservative treatment and revascularization for patients with intermittent claudication, while AMPREDICT and AMPDECIDE are mainly used for decisions related to chronic limb ischemia (CLTI) and amputation ^[22,23,26]. From a nursing perspective, nursing staff in the included studies played a crucial role in the implementation of SDM and the use of decision-support tools, particularly in health education, information support, and facilitating communication, which helped enhance patients' understanding of their condition and treatment options and improved patient satisfaction with nursing care ^[16,17,23]. Furthermore, CLTI-related decision-making tools (such as PREDICT and AMPDECIDE) also provide informational support in risk communication and outcome expectation management, which offers a practical foundation for nursing staff to participate in guiding patient decision-making ^[22,26].

4.2. Efficacy and mechanisms of action of SDM and PDA

The included randomized controlled trials and observational studies consistently indicate that the application of SDM and PDA can improve patients' disease knowledge, reduce decision-making conflict, and enhance patient engagement. Studies by de Mik et al. and Stubenrouch et al. both confirm that structured decision-making tools can improve the quality of doctor-patient communication and increase scores on shared decision-making scales, suggesting a consistent facilitative effect on the decision-making process ^[14,15]. From a nursing perspective, the mechanism of action can be further explained as a process of "information support—health education reinforcement—promotion of decision-making participation." Nursing staff play a crucial role in conveying information and providing health education; by using structured tools to help patients understand disease risks and treatment options, they reduce information asymmetry and facilitate shared decision-making ^[15,23]. On this basis, patients are able to express their preferences more clearly and participate in the joint selection of treatment plans. Some studies have also found that PDAs may influence patients' actual treatment choices ^[15,23]. For example, among individuals with intermittent claudication, some patients were more inclined to choose conservative treatment after using decision-making tools. This phenomenon may be related to patients' reassessment of the risks associated with invasive treatments after receiving comprehensive risk information. Furthermore, qualitative studies indicate that in high-risk decision-making situations, such as amputation, patient decision-making is significantly influenced not only by informational factors but also by emotional states and psychological burdens ^[18,27]. Therefore, during the implementation of SDM, nursing staff must also focus on providing emotional support and psychological counseling to patients, an aspect not fully addressed by existing quantitative tools.

4.3. Implementation barriers and influencing factors

Although most studies indicate that SDM tools have a high level of acceptance, their implementation in clinical practice remains constrained by various factors.

- (1) At the system level, key issues include limited clinical time resources and insufficient integration of

- SDM tools into routine clinical workflows, making standardized implementation challenging^[18,21];
- (2) At the healthcare provider level, the traditional physician-led decision-making model remains prevalent, and some healthcare providers lack a clear understanding of the distinction between “guided decision-making” and “shared decision-making”^[14,18]. Additionally, the frequent use of technical jargon in clinical communication may reduce patients’ comprehension of information, thereby affecting the effectiveness of SDM implementation^[18,27];
 - (3) At the patient level, differences in health literacy and emotional state are significant influencing factors. Particularly in decisions related to CLTI or amputation, patients often experience pain or anxiety, which may reduce their ability to process information and their willingness to participate, thereby limiting their effective involvement in the decision-making process^[18,23,27].

4.4. Research gaps and future directions

This study indicates that current research on SDM and PDA in the field of PAD still has certain limitations. Existing studies pay little attention to the implementation pathways and working models of SDM in nursing practice, and there is a particular lack of research on nurse-led SDM interventions. Existing evidence suggests that embedding SDM into nursing health education and follow-up management helps improve patient engagement and the quality of continuous care^[16,17,28]. Most existing studies focus on short-term outcome measures (such as knowledge levels and decision conflict), with insufficient attention paid to long-term clinical outcomes (such as readmission rates, amputation rates, and decision regret). In this process, nursing follow-up plays a critical role in ensuring patients adhere to their decisions, reinforcing healthy behaviors, and dynamically adjusting treatment plans. This is particularly true for PAD, a chronic progressive disease, where regular assessments of symptom changes, exercise adherence, and risk factor control can ensure the continuity and individualization of decision support. Future research should focus on developing nurse-led SDM implementation models and promoting the systematic integration of decision-making tools with nursing health education, post-discharge follow-up, and chronic disease management systems. At the same time, systematic evaluations of long-term clinical outcomes and patients’ decision-making experiences should be strengthened to clarify further the central role of nursing in shared decision-making for PAD.

5. Summary

In summary, this scoping review indicates that research on shared decision-making (SDM) and patient decision-making aids (PDA) in the field of peripheral artery disease (PAD) is generally on the rise. Existing evidence is primarily focused on specific disease stages and single clinical contexts. Current studies consistently indicate that SDM and PDAs can, to a certain extent, improve patients’ disease understanding, reduce decision-making conflict, and enhance the quality of decision-making participation; however, their application in real-world clinical settings remains constrained by multiple factors, including time and resource limitations, healthcare provider behavior patterns, and insufficient system integration. Furthermore, the effects of SDM extend beyond the cognitive level and may also influence patients’ treatment choices and psychological decision-making processes. However, evidence regarding long-term clinical outcomes and the mechanisms underlying its implementation remains relatively limited. Future research should further strengthen the development of standardized decision-making tools and promote their deep integration with clinical pathways and nursing practice to enhance the quality of decision-making and the capacity for

continuous support throughout the care continuum for patients with PAD.

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