

SYSTEMATIC REVIEW

Self-management to prevent venous leg ulcer recurrence: a scoping review

Yvonne Pennisi^{1*}, Nicole Muller¹, Claire Buckley^{1,2}, Siobhan Murphy¹, Irene Hartigan¹

¹University College Cork (UCC), Ireland

²Public Health Medicine, Health Service Executive (HSE), Ireland

*Corresponding author email yvonne.pennisi@ucc.ie

Abstract

Aims To assess the evidence from the literature and characteristics of self-management strategies for preventing venous leg ulcer (VLU) recurrence after healing.

Methods JBI Scoping Review guidelines were used to conduct a systematic database search of CINAHL, MEDLINE; PubMed; and Scopus (May 2023 updated March 2024). Two reviewers independently reviewed the data using Covidence.

Results 22 articles were identified as meeting the inclusion criteria. The data extraction identified a prevalence of expert opinions, with limited systematic reviews, quantitative, mixed and qualitative research designs. The research was predominantly located in the UK and Australia, within metropolitan hospitals and community-based services. Limited demographic information was gathered. Most of the research was patient-based, with only one study including families and carers. Self-management interventions included compression; however, other interventions were less consistent.

Conclusions Self-management to prevent VLU recurrence post-healing is a lifelong commitment, similar to any other chronic illness. Expanding self-management research to include contextual factors, such as family, economic impact and education, with a multidisciplinary lens may improve understanding of VLU and prevent reoccurrences

Keywords systematic review, venous leg ulcer, self-management, recurrence, self-care

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Introduction

Venous leg ulcers (VLUs) are an ongoing concern for many people around the world, as well as for healthcare systems internationally. Personally, people living with VLUs experience issues with cost impact of treatment,^{1,2} physical limitations,³⁻⁵ pain and psychological well-being.^{3,5-10} Additionally, these people experience a 50% to 76% recurrence rate with the ulcer returning on average, four times in a lifetime^{9,11} further impacting their general wellbeing. The health care system is also impacted as the estimated cost of VLUs for one individual is between £4787.70 to £7615.03 per ulcer annually in the United Kingdom,^{12,13} depending on the health care system structure. Research reports up to US\$10.73 billion on average being spent on VLU care by the global healthcare systems, being between US\$5226 in Australia and US\$7679 in the USA per person per year.¹⁴ There is currently very little research on the physical, emotional or financial costs of recurrence to the person, community and the health care system in the literature. However, given the high recurrence

rates, it could be assumed the cost of recurrence constitutes a large proportion of costs and impacts to the system and people globally. Preventing these recurrent VLUs could make a significant impact.

There are many prevention strategies to minimise the risk of recurrence. Firstly, the application of life-long compression therapy has been demonstrated to improve venous return, hence minimising the risk of recurrent VLUs,¹⁵⁻¹⁷ however, there are many issues with compression therapy concordance, such as pain/discomfort, donning/doffing garments, and cost, as well as the impact of poorly applied compression therapy causing injury.^{1,6,18,19} Another factor impacting the concordance with compression, and VLU recurrence prevention strategies is patient knowledge and education. Patient education has been linked to better outcomes, in compression therapy concordance, as well as assisting with the prevention of VLU recurrence.^{15,20,21} Lower limb activity and elevation are the other major

interventions with evidence supporting the prevention of VLU recurrence.^{15,22-26} However, even with the evidence, information and research, VLU recurrence remains an ongoing issue for wound management.

One such issue is the long duration and ongoing impact of VLUs across the person's lifespan, as well as broader effects on communities and healthcare systems. The average duration of a VLU ranges from 13.8 to 65.5 months, highlighting the long-term nature of this condition, which is further complicated by frequent recurrences.⁹ Given the extended duration and the lifelong risk of recurrence, VLUs can be strongly argued to meet the definition of chronic diseases/conditions: Noncommunicable diseases with duration of at least one year, requiring ongoing medical attention; that may or may not be associated with functional limitations.²⁷ In fact VLUs have many common features associated with chronic diseases/conditions such as complex causality, long development periods, prolonged course of illness and associated disability/impairments.²⁷ Despite the long-term nature of VLUs, the focus of both service provision and research appears to be on the processes of healing VLUs, within acute medical models.²³ However, shifting the focus from acute medical care to sustained, community-based chronic illness management could favor alternative methods, such as integrated care and self-management.

Self-management is acknowledged as an effective way to manage long-term chronic disease/conditions. Literature discusses the positive impact of self-management interventions on both symptom management as well as general quality of life and wellbeing.^{28,29} A limitation of the evidence is, however, the use and application of terminology, where self-care and self-management are used interchangeably.³⁰⁻³² Therefore, for the purposes of this paper we will define the concepts as:

- **Self-care:** The broad concept that encompasses all capacities, activities, and processes directed toward maintaining health, preserving life, and monitoring and managing acute and chronic conditions.³³
- **Self-management:** The capacities, activities and processes directed towards managing symptoms associated with a condition, including prevention of an exacerbation or activation of symptoms.³⁴
- **Self-treatment:** The capacities, activities and processes (cleaning wound, applying/removing dressings and applying compression) directed towards controlling active or exacerbated symptoms (wounds).³⁵

These concepts and definitions can be used when examining the chronicity of venous leg ulcers, where self-care would be the completion of overall health and well-being activities; self-management being the activities and tasks involved in managing the chronic disease and preventing the activation of a VLU, and self-treatment being the activities and tasks

completed by an individual focused on healing an active VLU.

Evidence demonstrates a strong influence on the development of chronic diseases by social determinants of health.³⁶ The ability to complete self-management is influenced by many contexts and situations. Evidence indicates that social supports, geographical locations, access to health care services, social and economic situations and the built and natural environments impact the ability to self-manage chronic diseases.^{36,37} These concepts can act as either a barrier or a facilitator to self-management success.

Self-management may be underutilised or inaccessible for populations without adequate financial resources, shortfalls in enabling physical environments, weak social support networks, and lacking access to a health-care team.³⁸ Although much research has focused on the healing and prevention of wounds, self-management to prevent recurrence is still evolving and remains underdeveloped. This study explored the extent and quality of evidence for self-management in preventing venous leg ulcers, the contexts in which this evidence was generated, and the characteristics of the existing literature.

Aim

To identify and describe the evidence characteristics of literature dealing with self-management (and related terms) to prevent venous leg ulcer (VLU) recurrence after healing.

Research questions

What are the evidence characteristics of the existing published literature, for self-management to prevent VLU recurrence post-healing.

What interventions are included as part of self-management in prevention of recurrence of VLUs post-healing.

Methods

A scoping review was conducted, as the area of self-management for leg ulcer recurrence prevention is a developing area of research, allowing a broader range of data to be included in the review. The Joanna Briggs Institute (JBI) Scoping Review guidelines were used as a protocol to conduct the research, with the question being first broken into the core concepts of population, concept and context.

Population: Adults (over 18 years) with healed VLUs (not diabetes-related ulcers, sickle cell anemia or acute wounds).

Concept: Self-management to prevent recurrence of venous leg ulcers after healing (not treatment or self-treatment of healing wounds)

Context: Completing self-management within the community setting (not living in acute or supported accommodation settings).

Search Strategy: The university librarian was consulted when

forming the search strategy and a trial search within EBSCO (CINAHL and MEDLINE) conducted in February/March 2023. The terms were then finalised, and a systematic database search of CINAHL, MEDLINE; PubMed; and Scopus was conducted in May 2023 using the search terms: (self-management or self-care or self-monitoring) AND (“leg ulcers” or “chronic leg ulcers” or “venous leg ulcers”) AND recurrence AND prevention NOT (DFU or “diabetic foot “ or “sickle cell”) as both keywords and MESH/Heading terms. An updated database search was conducted in March 2024, to ensure the data collection was up to date.

Data Screening and extraction

Covidence and Endnote were used to assist with the collation, screening and extraction processes. Articles were imported into Endnote from each database and collated into raw data and duplicates removed. This raw data was then transferred to Covidence, and the screening of titles and abstracts to meet the inclusion criteria completed by the first researcher (Author 1). After screening, two researchers (Authors 1 and 3) reviewed the screened full text articles, and articles were removed if they did not meet the inclusion criteria.

Data extraction was completed by two researchers (Authors 1 and 3) with a third researcher to clarify any discrepancies between the researchers. The data extraction table was based on the JBI Scoping Review protocol; including authors, author background, publication year, publication type; type of article as well as the aim, subjects/participants, interventions and contexts. Consensus was reached and the third researcher (Author 2) was not utilised in the process.

Results

With the initial search in 2023, 91 articles were identified using PUBMED, CINAHL and Scopus. Duplicates were then removed, and the remaining 62 articles were entered into the Covidence program, where another four duplicates were removed. From the remaining 58 studies, title and abstract screening excluded 17 articles for not meeting the inclusion criteria and another 21 were excluded during the full text screening. Reasons for exclusion included language (n=2); including wound healing (n=12); not examining self-management (n=2); one was about sickle cell anemia and one was a conference abstract. The final 20 articles were identified as meeting the inclusion criteria to address the research question. The second updated search in March 2024 identified another five articles, of which two were excluded due to including wound healing and three were included after screening and full text review (see Figure 1). The final number of articles rested at 23.

Evidence characteristics

The articles ranged from 1996 until 2024, however, the majority of articles were clustered within the last 10 years. From a professional perspective, all journal articles were published within either nursing or wound care journals, with

most authors identifying as having either nursing or nursing/academic backgrounds, with the exception of two articles, where the authors did not identify their backgrounds clearly. With regards to research location and context, the majority of studies were located in the United Kingdom (n=10), with Australia next (n=10). Two articles were from South America, and one from South East Asia (See Table 1).

As seen in Table 2, data extraction highlighted the prevalence of expert opinions (n=7) when reviewing the literature on self-management to prevent VLU recurrence. Quantitative approaches were identified (n=5), however, it must be noted several articles were secondary data analysis of previously reported data, as well as a publication of prospective quantitative protocols, later reported on. The quantitative approaches included a Randomised Control Trial (RCT), as well as in-depth and extensive measures, including standardised measures (such as SF12 and the Geriatric Depression Scale), as well as bespoke surveys and questionnaires. From the qualitative perspective, as well as the mixed methods approaches, focus groups and interviews were frequently identified within the articles, with one qualitative open-ended questionnaire used.

With the research that involved participants (see Table 3), large sample sizes (from 80 to 250 participants) were

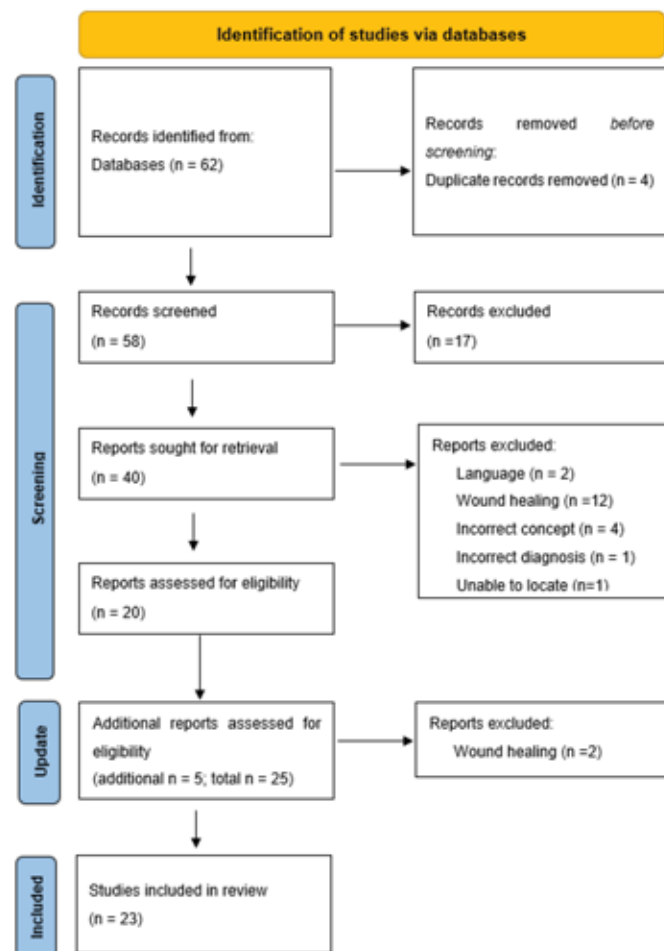


Figure 1. PRISMA diagram

used in the quantitative studies and smaller sample sizes (10 to 12 participants) were used in the qualitative studies. The sample sizes were justified, and where needed, power calculations informed the sample sizes. It was noted that only one study included patients, family/carers and health care professionals. The study involved the development of a tool for readiness to self-management. Two articles included a health care provider perspective, the previously mentioned tool development article, and a literature review, which included a survey with a small sample of health care professionals. The general demographics and contexts of the healthcare professionals and family/carers were not reported in any of the studies.

Except for two articles, the ratio of male to females was approximately equal and the ages ranged from 41 to 96 years (see Table 3). The demographics gathered for the patient populations were not consistent. It is noted that socioeconomic information, including income type, social situation and social support was gathered via a survey tool in all articles with Finlayson as the primary author. Finlayson et al 2011²⁶ and 2014¹⁰ both reported on a data set collected between 2006 and 2009 with 80 participants; their income streams included: aged pension (42%), disability pension (7%), self-funded or employed (26%). However, when these data were combined with data from a third study (led by Edwards⁶¹) to create a sample of 250 participants for secondary data analysis by Finlayson, Wu and Edwards in 2015⁶², the income breakdown changed to: aged pension (64%); disability pension (12%); employed (7%); and self-funded retired (7%). Relationship status ranged in the study

by Finlayson et al 2015⁶², with 37–43% of participants married; 11–17% single (living alone) and 29–39% widowed (living alone). The majority of the participant data sets, and specifically, the data sets with more demographics, were recruited from the Australian population.

Regarding the context of the study and sampling pool, when reported, all research was based in metropolitan or urban areas, no participants identified as being from rural, regional or remote areas in the data. The research was identified as being completed in the community, either at clinics or during home nursing services. Three articles included recruitment from both a hospital and a community setting.

In Table 4, the interventions which were identified as part of the self-management or self-care to prevent recurrence are described. Compression was the most frequently identified treatment, with 22 out of 23 articles highlighting compression therapy as the main component for preventing recurrence. Exercise or activity was the next most frequent treatment (n=13) with the elevation of legs being the third most frequently identified component for self-management to prevent recurrence (n=11), then skin care (n=9). Education, nutrition and family or support were all identified at approximately the same rate, with group interventions being the least identified part of self-management in relation to preventing VLU recurrence.

Discussion

This scoping review aimed to explore the scope and characteristics of self-management, and related concepts, in preventing the recurrence of venous leg ulcers (VLUs)

Table 1. Study location and Study ID.

Country	Study ID (First author and date)
United Kingdom (10)	Anderson 2015, Atkin 2019, Brown 2014a, Brown 2014b, Brown 2014c, Brown 2018, Brown 2021, Elwell 2018, Freeman 2007, Venable 2015
Australia (10)	Finlayson 2009, Finlayson 2010, Finlayson 2011, Finlayson 2014, Finlayson 2015, Kapp 2008, Kapp 2014, Kapp 2015, Stewart 2018, Thompson 1996
South America (2)	Madeira 2023, Souza 2019
South East Asia (1)	He 2024

Table 2. Methodology approaches and Study ID.

Methodology	Study ID (First author and date)
Systematic review (3)	He, 2024, Souza 2019, Madeira 2023.
Qualitative (3)	Freeman 2007, Kapp 2015, Stewart 2018
Quantitative (5)	Finlayson 2009, Finlayson 2011, Finlayson 2014, Finlayson 2015, Kapp, 2014
Mixed methods (3)	Brown 2014c, Finlayson 2010, Kapp 2008
Case study (1)	Venable 2016
Expert opinions (8)	Anderson 2015, Atkin 2019, Brown 2014a, Brown 2014b, Brown 2018, Brown 2021, Elwell 2018, Thompson 1996

Table 3. Participant characteristics

Study ID	Participants									Participant type
	Number	Female	Male	Age	Geography	Socioeconomic data gathered?	Socioeconomic data type	Social situation data gathered	Clinical context	
Brown 2014c	86	58	28	23-83		No		No	Community	Patients, Carers and HCP
Finlayson 2009	122	62	60		Metro	Yes	SEIFA	No	Community	Patients
Finlayson 2010	122	62	60		Metro	Yes	SEIFA	No	Community	Patients
Finlayson 2011	80	46	34	41-95	Metro	Yes	Income type	Yes	Community and Hospital	Patients
Finlayson 2014	80	46	34	41-95	Metro	Yes	Income type	Yes	Community and Hospital	Patients
Finlayson 2015	250	130	120	26-96	Metro	Yes	IRSAD	Yes	Community and Hospital	Patients
Freeman 2007	10			75-90	Metro	No		Yes	Community	Patients
Kapp 2008	8					No		No	Community	HCP
Kapp 2014	100	77	23	78.7 (average)	Metro	No		No	Community	Patients
Kapp 2015	12	10	2	51-90		No		No	Community	Patients
Venable 2015	1	1		69		No		No	Community	Single patient

SEIFA: Australian Socio-Economic Indexes for Areas Advantage/Disadvantage Index

IRSAD: Sub-section of SEIFA survey

Carers: Usually family or friends

HCP: Health care professionals

post-healing. A deliberate methodological decision was made to exclude articles addressing healing wounds, as this review specifically focused on recurrence prevention. This is critical because terminology in wound management regarding self-management is inconsistent.³⁹ In this review, *self-management* refers to managing symptoms associated with a condition, including prevention,³⁴ whereas *self-treatment* pertains to actions targeting the healing of exacerbated symptoms, such as wounds.³⁵ The key distinction is that self-management is a lifelong task, while healing has an endpoint. This differentiation is important as the psychological factors—such as lack of acceptance, resignation, and emotional exhaustion—differ between these two concepts.

The tasks associated with self-management identified in this review align with previous research in the field. Compression therapy emerged as the most frequently cited intervention for preventing recurrence, underscoring its role as the primary self-management task for VLU prevention^{15,17,23,40-42}

Other commonly reported tasks include exercise, leg elevation, patient education, and, to a lesser extent, skin care.^{15,40,43} Interestingly, education was rarely highlighted as a core component of self-management interventions in VLU prevention, which contrasts with chronic disease self-management, where education plays a crucial role.⁴⁴⁻⁴⁷ However, challenges with patient education exist in both contexts. Low literacy and educational levels have been linked to poorer outcomes and increased risk factors for chronic diseases, including VLUs.^{15,36,48-50}

Contextual factors, such as demographic characteristics, have been shown to influence the effectiveness of self-management interventions^{36,51} Social determinants of health (SDH), including socio-economic status and living conditions, have been related to both the development and management of chronic diseases.^{8,52,53} This relationship extends to VLUs, where contextual factors impact not only the development and healing of ulcers but also their management.^{8,53}

Table 4. Study ID and interventions for self-management

Study ID	Compression therapy	Exercise	Elevate	Skincare	Educate	Nutrition	Family/ support	Other	Group
Anderson 2015	1								
Atkin 2019	1								
Brown 2014a	1								
Brown 2014b	1	1	1						
Brown 2014c	1	1	1						
Brown 2018	1	1	1						
Brown 2021	1	1	1	1					
Elwell 2018	1		1						
Finlayson 2009	1	1	1			1	1		
Finlayson 2010	1			1				1	
Finlayson 2011	1	1	1			1	1		
Finlayson 2014	1	1	1						
Finlayson 2015	1	1	1	1		1	1		
Freeman 2007					1				1
He 2024	1	1			1			1	
Kapp 2008	1			1					
Kapp 2014	1								
Kapp 2015	1	1		1	1	1			
Madeira 2023	1	1		1				1	
Souza 2019	1				1				
Steward 2018	1			1				1	
Thompson 1996	1	1	1	1	1				
Venable 2015	1	1	1	1				1	
Total	22	13	11	9	5	4	3	5	1

In contrast, this review found that certain contextual factors, such as marital status, did not significantly influence VLU recurrence rates. Similarly, social support, while not directly linked to recurrence rates, was found to impact self-efficacy in self-management.^{1,5} This contrasts with other studies that have identified social support as a factor in both ulcer healing and the enhancement of self-management skills. It may be that relationship status does not necessarily equate to social support. Furthermore, access to services—such as transport, urban versus rural living, and neighborhood socioeconomic status—has been associated with the risk of developing chronic diseases and delayed ulcer healing.^{8,36,51,53,54} However,

in this review, income and socioeconomic status measures did not appear to influence recurrence or self-management. It is important to note that the population studied was limited, with all participants recruited from the same sources, which may have impacted the findings.

As self-management for VLU recurrence prevention is still developing as an area of research, a scoping review methodology was employed to capture a broad range of articles. This is reflected in the inclusion of numerous expert opinions and case studies. At the higher end of the evidence hierarchy, three systematic reviews were identified, one of

which was a scoping review protocol. Quantitative studies (n=5) and mixed methods studies (n=3) were the next most common, though some relied on secondary data analysis, which may have limited participant diversity. Recruitment in several studies was based on previous or concurrent studies, further restricting the population sample. Qualitative research was the least utilised, and none of the studies focused on rural populations or access to community or hospital services. Future research should explore the impact of service accessibility, as both geographic location and service availability have been shown to significantly influence self-management skills in chronic disease management.^{8,54,55}

The findings indicate that nursing professionals currently lead the field of VLU recurrence prevention through self-management, as evidenced by the authorship and journal orientation of the studies reviewed. In contrast, self-management for chronic diseases typically involves a wider range of healthcare professionals, including those from social sciences and allied health disciplines. The benefits of a multidisciplinary team approach are well-documented and have been recommended for both clinical practice and research in wound management.

Self-management has proven effective in chronic diseases such as heart failure, asthma, arthritis, and diabetes. These interventions, often delivered by multidisciplinary team, consistently incorporate patient education, lifestyle modifications and lifelong behavioural changes such as problem-solving, and self-monitoring.^{46,55-58} These strategies empower patients to take control of their conditions, leading to better clinical outcomes, fewer hospitalisations, and improved quality of life. In contrast, self-management in VLU care, particularly in preventing recurrence, is less developed. While chronic disease management focuses on addressing underlying pathophysiology and modifying risk factors, VLU care often remains centered on wound management, neglecting the broader context of chronic venous insufficiency.^{43,59,60} A shift towards a more holistic approach, targeting underlying venous disease through patient education and self-care, could replicate the successes seen in heart failure and diabetes management.

Conclusions

In conclusion, self-management to prevent VLU recurrence is a crucial yet evolving concept in wound management. The current literature is characterised by a reliance on expert opinions, an underrepresentation of qualitative research, and inconsistencies in terminology and approaches. While compression therapy remains the most well-established intervention, other strategies such as exercise, education, and skin care require further development and evaluation. Core concepts of chronic disease self-management, like education and adherence to lifestyle modifications or adherence to lifelong factors that reduce recurrence risk, are generally absent in the wound self-management literature, partly due to the exclusion of articles on healing VLUs. To

improve patient outcomes, it is essential to expand the understanding of VLUs as a chronic condition and integrate them within chronic disease management frameworks. A multidisciplinary approach, community integration, and a shift in language and focus are necessary for advancing VLU management.

Conflict of interest

The authors declare no conflicts of interest.

Ethics statement

An ethics statement is not applicable.

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References

1. Weller CD, Richards C, Turnour L, Team V. Patient explanation of adherence and non-adherence to venous leg ulcer treatment: a qualitative study. *Front Pharmacol*. 2021;12:663570. doi:10.3389/fphar.2021.663570
2. Weller CD, Richards C, Turnour L, Patey AM, Russell G, Team V. Barriers and enablers to the use of venous leg ulcer clinical practice guidelines in Australian primary care: A qualitative study using the theoretical domains framework. *Int J Nurs Stud*. 2020;103:103503. doi:https://doi.org/10.1016/j.ijnurstu.2019.103503
3. Folguera-Álvarez C, Garrido-Elustondo S, Rico-Blázquez M, Verdú-Soriano J. Factors associated with the quality of life of patients with venous leg ulcers in primary care: cross-sectional study. *Int J Low Extrem Wounds*. 2022;21(4):521–528. doi:10.1177/1534734620967562
4. Barnsbee L, Cheng Q, Tulleners R, Lee X, Brain D, Pacella R. Measuring costs and quality of life for venous leg ulcers. *Int Wound J*. 2019;16(1):112–121. doi:10.1111/iwj.13000
5. Finlayson K, Parker C, Miller C, Edwards H, Campbell J. Decreased mobility, lack of social support, haemosiderosis and use of antidepressant medications may predict recurrent venous leg ulcers within 12 months of healing: A prospective longitudinal study. *Phlebology*. 2022;37(3):206–215. doi:10.1177/02683555211063986
6. Patton D, Avsar P, Sayeh A, et al. A systematic review of the impact of compression therapy on quality of life and pain among people with a venous leg ulcer. *Int Wound J* 2024;21(3):e14816. doi:https://doi.org/10.1111/iwj.14816
7. Jindal R, Chaudhary P, Gupta B, Kaur T, Dhillon S. Venous ulcers: review article. *Indian J Surg*. 2023;85:121–132. doi:10.1007/s12262-021-03064-x
8. Parker CN, Johnston S, Ut B, O'Donoghue E, Fletcher B, Finlayson K. Risk factors for delayed healing or non-healing of venous leg ulcers in adults: a systematic review protocol. *Wound Pract Res*. 2022;30(2):119–122. doi: 10.33235/wpr.30.2.119-122
9. Gethin G, Vellinga A, Tawfick W, et al. The profile of patients with venous leg ulcers: A systematic review and global perspective. *J Tissue Viability*. 2021;30(1):78–88. doi:10.1016/j.jtv.2020.08.003
10. Finlayson KJ, Edwards HE, Courtney MD. Venous leg ulcer recurrence: deciphering long-term patient adherence to preventive treatments and activities. *Wound Pract Res*. 2014;22(2):91–97.
11. Probst S, Saini C, Gschwind G, et al. Prevalence and incidence of venous leg ulcers – A systematic review and meta-analysis. *Int Wound J*. 2023;20(9):3906–3921. doi:10.1111/iwj.14272

12. Guest JF, Fuller GW, Vowden P. Venous leg ulcer management in clinical practice in the UK: costs and outcomes. *Int J Wound J*. 2018;15(1):29–37. doi:https://doi.org/10.1111/iwj.12814
13. Urwin S, Dumville JC, Sutton M, Cullum N. Health service costs of treating venous leg ulcers in the UK: evidence from a cross-sectional survey based in the north west of England. *BMJ Open*. 2022;12(1):e056790. doi:10.1136/bmjopen-2021-056790
14. Kolluri R, Lugli M, Villalba L, et al. An estimate of the economic burden of venous leg ulcers associated with deep venous disease. *Vascular medicine (London, England)*. 2022;27(1):63–72. doi:10.1177/1358863X211028298
15. He B, Shi J, Li L, et al. Prevention strategies for the recurrence of venous leg ulcers: A scoping review. *Int Wound J*. 2024;21(3):e14759. doi:10.1111/iwj.14759
16. Edmondson M, Faithfull J, Carville K, Smith J. Investigation into effectiveness of compression stockings for lower leg re-ulceration prevention in a community cohort. *Wound Pract Res*. 2022;30(4):231–231. doi:10.33235/wpr.30.4.228-245
17. Atkin L. Venous leg ulcer prevention 3: supporting patients to self-manage. *Nursing Times*. 2019;115(8):23–26.
18. Barnes H. To explore the factors that impact on patient concordance with venous leg ulcer management using compression therapy. *Br J Community Nurs*. 2023;28(Sup3):S8–S18. doi:10.12968/bjcn.2023.28.Sup3.S8
19. Probst S, Séchaud L, Bobbink P, Skinner MB, Weller CD. The lived experience of recurrence prevention in patients with venous leg ulcers: An interpretative phenomenological study. *J Tissue Viability*. 2020;29(3):176–179. doi:10.1016/j.jtv.2020.01.001
20. Huang Y, Hu J, Xie T, et al. Effects of home-based chronic wound care training for patients and caregivers: A systematic review. *Int Wound J*. 2023;20(9):3802–3820. doi:10.1111/iwj.14219
21. Žulec M, Pavlič DR, Žulec A. The effect of an educational intervention on self-care in patients with venous leg ulcers—a randomized controlled trial. *Int J Environ Res Public Health*. 2022;19(8):4657. doi:10.3390/ijerph19084657
22. Qiu Y, Osadnik CR, Team V, Weller CD. Effects of physical activity as an adjunct treatment on healing outcomes and recurrence of venous leg ulcers: A scoping review. *Wound Repair Regen*. 2022;30(2):172–185. doi:10.1111/wrr.12995
23. Brown A. Recurrent venous leg ulcers: management in general practice. *Practice Nursing*. 2021;32(6):220–225. doi:10.12968/pnur.2021.32.6.220
24. Bolton Saghdaoui L, Lampridou S, Racaru S, Davies AH, Wells M. Healthcare interventions to aid patient self-management of lower limb wounds: A systematic scoping review. *Int Wound J*. 2023;20(4):1304–1315. doi:https://doi.org/10.1111/iwj.13969
25. Brown A. Life-style advice and self-care strategies for venous leg ulcer patients: What is the evidence? *J Wound Care*. 2012;21(7):342–350. doi:10.12968/jowc.2012.21.7.342
26. Finlayson K, Edwards H, Courtney M. Relationships between preventive activities, psychosocial factors and recurrence of venous leg ulcers: A prospective study. *J Adv Nurs*. 2011;67(10):2180–2190. doi:10.1111/j.1365-2648.2011.05653.x
27. Bernell S, Howard SW. Use your words carefully: what is a chronic disease? *Front Public Health*. 2016;4:159. doi:10.3389/fpubh.2016.00159
28. Bahari G, Kerari A. Evaluating the effectiveness of a self-management program on patients living with chronic diseases. *Risk Manag Healthc Policy*. 2024;17:487–496. doi:10.2147/RMHP.S451692
29. Timmermans L, Golder E, Decat P, Foulon V, Van Hecke A, Schoenmakers B. Characteristics of self-management support (SMS) interventions and their impact on Quality of Life (QoL) in adults with chronic diseases: An umbrella review of systematic reviews. *Health Policy*. 2023;135:104880. doi:https://doi.org/10.1016/j.healthpol.2023.104880
30. Gosak L, Vrbnjak D, Pajnikihar M. Self-management of chronic diseases: a concept analysis. *Nursing in the 21st Century*. 2022;21(2):115–121. doi:10.2478/pielxxiw-2022-0006
31. Tulu SN, Cook P, Oman KS, Meek P, Kebede Gudina E. Chronic disease self-care: A concept analysis. *Nursing Forum*. 2021;56(3):734–741. doi:10.1111/nuf.12577
32. Martínez N, Connelly CD, Pérez A, Calero P. Self-care: A concept analysis. *Int J Nurs Sci*. 2021;8(4):418–425. doi:10.1016/j.ijnss.2021.08.007
33. Matarese M, Lommi M, De Marinis MG, Riegel B. A Systematic Review and Integration of Concept Analyses of Self-Care and Related Concepts. *J Nurs Schol*. 2018;50(3):296–305. doi:10.1111/jnu.12385
34. Richmond RS, Connolly M. A delineation of self-management and associated concepts. *Int J Healthc Manag*. 2021;14(4):1576–1588. doi:10.1080/20479700.2020.1810963
35. Kapp S, Santamaria N. The “self-treatment of wounds for venous leg ulcers checklist” (STOW-V Checklist V1.0): Part 1-Development, pilot and refinement of the checklist. *Int Wound J*. 2022;19(3):705–713. doi:10.1111/iwj.13666
36. Cockerham WC, Hamby BW, Oates GR. The social determinants of chronic disease. *Am J Prev Med*. 2017;01/01/2017;52(1,Sup1):S5–S12. doi:10.1016/j.amepre.2016.09.010
37. Schulman-Green D, Jaser SS, Park C, Whittmore R. A metasynthesis of factors affecting self-management of chronic illness. *J Adv Nurs*. 2016;72(7):1469–1489. doi:10.1111/jan.12902
38. Garnett A, Ploeg J, Markle-Reid M, Strachan PH. Self-management of multiple chronic conditions by community-dwelling older adults: a concept analysis. *SAGE Open Nursing*. 2018;4. doi:10.1177/2377960817752471
39. Pennisi Y, Müller N, Buckley C, Hartigan I, Murphy S. Self-management to prevent recurrence in venous leg ulcers: A concept analysis. *Int Wound J*. 2024;21(6):e14944. doi:10.1111/iwj.14944
40. Brown A. Self-care strategies to prevent venous leg ulceration recurrence. *Practice Nursing*. 2018;29(4):152–158. doi:10.12968/pnur.2018.29.4.152
41. Finlayson K, Edwards H, Courtney M. Factors associated with recurrence of venous leg ulcers: A survey and retrospective chart review. *Int J Nurs Stud*. 2009;46(8):1071–1078. doi:10.1016/j.ijnurstu.2008.12.012
42. Souza FJ, Aquino JFST, Silva MAG, Oliveira MF, Dantas SRPE. Noninvasive measures of venous ulcer recurrence prevention: integrative review. *Braz J Enterostomal Ther*. 2019;17:1–9. doi:10.30886/estima.v17.713_IN
43. Bobbink P, Larkin PJ, Probst S. Experiences of venous leg ulcer persons following an individualised nurse-led education: protocol for a qualitative study using a constructivist grounded theory approach. *BMJ Open*. 2020;10(11):e042605. doi:10.1136/bmjopen-2020-042605
44. Bartlett SJ, Lambert SD, McCusker J, et al. Self-management across chronic diseases: Targeting education and support needs. *Patient Educ Couns*. 2020;103(2):398–404. doi:10.1016/j.pec.2019.08.038
45. Jonkman NH, Schuurmans MJ, Groenwold RHH, Hoes AW, Trappenburg JCA. Identifying components of self-management interventions that improve health-related quality of life in chronically ill patients: Systematic review and meta-regression analysis. *Patient Educ Couns*. 2016;99(7):1087–1098. doi:10.1016/j.pec.2016.01.022

46. Mansoor K, Maqbool Ahmed Khuwaja H. The effectiveness of a chronic disease self-management program for elderly people: a systematic review. *Elderly Health J.* 2020;6(1):51–63. doi:10.18502/ehj.v6i1.3416
47. Riegel B, Westland H, Iovino P, et al. Characteristics of self-care interventions for patients with a chronic condition: A scoping review. *Int J Nurs Stud.* 2021;116:103713. doi: 10.1016/j.ijnurstu.2020.103713
48. Hyvert S, Yailian A-L, Haesebaert J, et al. Association between health literacy and medication adherence in chronic diseases: a recent systematic review. *Int J Clin Pharm.* 2023;45(1):38–51. doi:10.1007/s11096-022-01470-z
49. Mackey LM, Doody C, Werner EL, Fullen B. Self-management skills in chronic disease management: what role does health literacy have? *Med Decis Making.* 2016;36(6):741–759. doi:10.1177/0272989x16638330
50. Shanley E, Moore Z, Patton D, et al. Patient education for preventing recurrence of venous leg ulcers: a systematic review. *J Wound Care.* 2020;29(2):79–91. doi:10.12968/jowc.2020.29.2.79
51. Hardman R, Begg S, Spelten E. What impact do chronic disease self-management support interventions have on health inequity gaps related to socioeconomic status: a systematic review. *BMC Health Services Research.* 2020;20(1):150. doi:10.1186/s12913-020-5010-4
52. Bandura A. Health promotion by social cognitive means. *Health Educ Behav.* 2004;31(2):143–164. doi:10.1177/1090198104263660
53. Weller CD, Team V, Probst S, et al. Health literacy in people with venous leg ulcers: A protocol for scoping review. *BMJ Open.* 2021;11(5):e044604. doi:10.1136/bmjopen-2020-044604
54. Parker CN, Finlayson KJ, Shuter P, Edwards HE. Risk factors for delayed healing in venous leg ulcers: a review of the literature. *Int J Clin Pract.* 2015;69(9):967–977. doi:https://doi.org/10.1111/ijcp.12635
55. Hampton S. The difficulty and the solution of compression therapy in a healed venous leg ulcer. *Br J Community Nurs.* 2016; 21(Sup 9): S34–38. doi: 10.12968/bjcn.2016.21.Sup9.S34.
56. Lorig KR, Holman H. Self-management education: history, definition, outcomes, and mechanisms. *Ann Behav Med.* 2003;26(1):1–7. doi:10.1207/s15324796abm2601_01
57. Richardson J, Loyola-Sanchez A, Sinclair S, et al. Self-management interventions for chronic disease: a systematic scoping review. *Clin Rehabil.* 2014;28(11):1067–1077. doi: 10.1177/0269215514532478
58. McBain H, Shipley M, Newman S. Clinician and patient views about self-management support in arthritis: a cross-sectional UK survey. *Arthritis Care Res.* 2018;70(11):1607–1613. doi: 10.1002/acr.23540.
59. Life-style advice and self-care strategies for venous leg ulcer patients: what is the evidence? *J Wound Care.* 2012;21(7):342–348. doi:10.12968/jowc.2012.21.7.342
60. O'Brien J, Finlayson K, Kerr G, Edwards H. Evaluating the effectiveness of a self-management exercise intervention on wound healing, functional ability and health-related quality of life outcomes in adults with venous leg ulcers: a randomised controlled trial. *Int Wound J.* 2017;14(1):130–137. doi: 10.1111/iwj.12571
61. Edwards H, Finlayson K, Courtney M, Graves N, Gibb M, Parker C. Health service pathways for patients with chronic leg ulcers: identifying effective pathways for facilitation of evidence based wound care. *BMC Health Serv Res.* 2013;13 (2013):86
62. Finlayson K, Wu M-L, Edwards H. Identifying risk factors and protective factors for venous leg ulcer recurrence using a theoretical approach: A longitudinal study. *Int J Nurs Stud.* 2015;52(6):1042–1051. doi: 10.1016/j.ijnurstu.2015.02.016

Supplementary Information

Study ID	Authors	Date	Title	Aim	Country	Location	Delivery	Methodology	Method	Participants	Demographic data	Interventions	Main terms	Definition	Citation
Atkin 2019	Atkin L	2019	Venous leg ulcer prevention 3: Supporting patients to self-manage	Discuss how nurses can help patients to understand their treatment and improve adherence to compression therapy	United Kingdom	N/A	N/A	Expert opinion	N/A	N/A	N/A	Compression	self-management	No	Atkin L. Venous leg ulcer prevention 3: supporting patients to self-manage. <i>Nursing Times</i> . 2019;115(6), 23-26.
Anderson 2015	Anderson I	2015	Optimising concordance with compression hosiery in the community setting	Provide information to community nurses to optimise compression concordance	United Kingdom	N/A	N/A	Expert opinion	N/A	N/A	N/A	Compression	self-management	No	Anderson I. Optimising concordance with compression hosiery in the community setting. <i>British Journal of Community Nursing</i> . 2015;20(2):67-72. doi:10.12968/bjcn.2015.20.2.67
Brown 2014a	Brown A	2014	Evaluating the reasons underlying treatment nonadherence in VLU patients: introducing the VeLUSET Part 1 of 2	Discuss health behaviour change models underpinned by social cognitive theory. Introduces the VeLUSET, a validated tool which provides an objective measure of nursing interventions designed to increase self-efficacy	United Kingdom	N/A	N/A	Expert opinion	N/A	N/A	N/A	Compression. VeLUSE (measure self-efficiency)	Self-care activities	No	Brown A. Evaluating the reasons underlying treatment nonadherence in VLU patients: introducing the VeLUSET Part 1 of 2. <i>Journal of Wound Care</i> . 2014; 23(1):37-47. doi: 10.12968/jowc.2014.23.1.37
Brown 2014b	Brown A	2014	Evaluating the reasons underlying treatment nonadherence in VLU patients: Mischel's theory of uncertainty. Part 2 of 2	Evaluate reasons underlying treatment non adherence using Mischel's Theory of Uncertainty in illness.	United Kingdom	N/A	N/A	Expert opinion	N/A	N/A	N/A	Understanding why patient have decreased knowledge; wearing hosiery, elevation and ankle exercise.	Self-care	No	Brown A. Evaluating the reasons underlying treatment nonadherence in VLU patients: Mischel's theory of uncertainty. Part 2 of 2. <i>Journal of Wound Care</i> . 2014; 23(2):73-80. doi: 10.12968/jowc.2014.23.2.73

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Brown 2014c	Brown A, Kendall S, Flanagan M, Cottee M	2014	Encouraging patients to self-care – the preliminary development and validation of the VeLUSETA®, a self-efficacy tool for venous leg ulcer patients, aged 60 years and over	To develop and validate a disease-specific, patient-focused self-efficacy scale for patients with healed venous leg ulceration	United Kingdom	Nil	Nil	Mixed methods	Focus group, tool validation (principal component analysis)	50	HCP (18 female/0 male, Aged 23–61); Patients (50: 31 female/19 male, Aged 60–83); family/careers (18: 9 female/9 male, Aged 55–83)	Wearing compression hosiery, performing ankle exercises and elevation	Self-care	No	Brown A. Self-care strategies to prevent venous leg ulceration recurrence. <i>Practice Nursing</i> . 2018;29(4):152–158. doi: 10.12968/pnur.2018.29.4.152
Brown 2018	Brown A	2018	Self-care strategies to prevent venous leg ulceration recurrence	To discuss self-care strategies that can play a role in the prevention of recurrence of venous leg ulceration.	United Kingdom	N/A	N/A	Expert opinion	N/A	N/A	N/A	Compression therapy; physical activity; mobility and leg elevation	Self-care	No	Brown A. Self-care strategies to prevent venous leg ulceration recurrence. <i>Practice Nursing</i> . 2018;29(4):152–158. doi: 10.12968/pnur.2018.29.4.152
Brown 2021	Brown A	2021	Recurrent venous leg ulcers: management in general practice	To discuss how self-care strategies such as physical exercise and mobility, leg elevation and appropriate skin care, can help to prevent recurrence of venous leg ulcers	United Kingdom	N/A	N/A	Expert opinion	N/A	N/A	N/A	Compression, physical exercise and mobility, leg elevation and appropriate skin care	Self-care strategies	No	Brown A. Recurrent venous leg ulcers: management in general practice. <i>Practice Nursing</i> . 2021;32(6):220–225. doi:10.12968/pnur.2021.32.6.220
Elwell 2018	Elwell	2018	European Class compression hosiery: a new range of garments	To provide information to community nurses on how to choose right hosiery to facilitate compression concordance	United Kingdom	N/A	N/A	Expert opinion	N/A	N/A	N/A	Compression hosiery;	Self-care	No	Elwell R. European class compression hosiery: a new range of garments. <i>Journal of Community Nursing</i> . 2018;32(3):40–44.
Finlayson 2009	Finlayson K, Edwards H, Courtney M	2009	Factors associated with recurrence of venous leg ulcers: A survey and retrospective chart review	To examine the relationships between leg ulcer recurrence and physical activity, compression, nutrition, health, psychosocial indicators and self-care activities in order to provide information for preventive strategies	Australia	Metro	Hospital and community	Quantitative	Survey and retrospective chart review	122		Mixed; physical activity and exercise, nutrition, psychosocial factor, compression, leg elevation	Self-care	No	Finlayson K, Edwards H, Courtney M. Factors associated with recurrence of venous leg ulcers: A survey and retrospective chart review. <i>International Journal of Nursing Studies</i> . 2009;46(8):1071–1078. doi: 10.1016/j.ijnurstb.2008.12.012

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Finlayson 2010	Finlayson K, Edwards H, Courtney M	2010	The impact of psychosocial factors on adherence to compression therapy to prevent recurrence of venous leg ulcers	To identify participants knowledge regarding their condition and the self-care activities they undertook to prevent recurrence and to determine which demographic or psychosocial factors influenced adherence to compression therapy	Australia	Metro	Hospital and community	Mixed methods	Cross-sectional survey (mixed) and retrospective medical record review (quant).	122	As above plus further data provided	Mixed; application of topical skin treatments, wearing compression hosiery and covering legs to prevent trauma	Self-care	No	Finlayson K, Edwards H, Courtney M. The impact of psychosocial factors on adherence to compression therapy to prevent recurrence of venous leg ulcers. <i>Journal of Clinical Nursing</i> . 2010;19(9-10):1289-1297. doi: 10.1111/j.1365-2702.2009.03151.x
Finlayson 2011	Finlayson K, Edwards H, Courtney M	2011	Relationships between preventive activities, psychosocial factors and leg ulcer recurrence in patients with chronic venous leg ulcers: A prospective study	To identify relationships between preventive activities, psychosocial factors and leg ulcer recurrence in patients with chronic venous leg ulcers	Australia	Metro	Hospital and community	Quantitative	Quantitative longitudinal study	80	34 male; 46 female (41-95yrs); other demographic data gathered	physical activity, nutrition, preventive activities and psychosocial measure	Self-care activities	No	Finlayson K, Edwards H, Courtney M. Relationships between preventive activities, psychosocial factors and recurrence of venous leg ulcers: A prospective study. <i>Journal of Advanced Nursing</i> . 2011; 67(10): 2180-2190. doi: 10.1111/j.1365-2648.2011.05653.x
Finlayson 2014	Finlayson K, Edwards H, Courtney M	2014	Venous leg ulcer recurrence: deciphering long-term patient adherence to preventive treatments and activities	To better understand long-term adherence to self-care activities to prevent the recurrence of venous leg ulcers (VLUs)	Australia	Metro	Hospital and community	Quantitative secondary analysis	Secondary analysis	80	As above	Adherence to compression therapy, leg elevation, lower limb exercising	Self-care strategies	No	Finlayson K, Edwards H, Courtney M. Venous leg ulcer recurrence: deciphering long-term patient adherence to preventive treatments and activities. <i>Wound Practice and Research</i> . 2014;22(2): 91-97.
Finlayson 2015	Finlayson K, Wu M-L, Edwards H	2015	Identifying risk factors and protective factors for venous leg ulcer recurrence using a theoretical approach: A longitudinal study	To identify risk and protective factors for recurrence of venous leg ulcers using a theoretical approach by applying a framework of self and family management of chronic conditions to underpin the study	Australia	Metro	Hospital and community	Secondary analysis	Secondary analysis of three previous studies	250	80 (34 m; 46f, 41-95yrs); from Finlayson 2009, 170 from Edwards et al 2013 ⁶¹	Adherence to compression therapy, leg elevation, lower limb exercising	Self-care	No	Finlayson K, Wu M-L, Edwards H. Identifying risk factors and protective factors for venous leg ulcer recurrence using a theoretical approach: A longitudinal study. <i>International Journal of Nursing Studies</i> . 2015;52(6):1042-1051. doi: 10.1016/j.ijnurstu.2015.02.016

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Freeman 2007	Freeman E, Gibbins A, Walker M, Hapeshi J	2007	'Look After Your Legs': patients' experience of an assessment clinic	To evaluate LAYL service and second, to explore how patients and patient ambassadors have empowered and supported others in a small group community setting	Australia	Unknown	Community	Qualitative	Focus groups and interviews	10	Aged 75-90	Expert patient program: Look after your legs (LAYL); Group support health promotion	Self-care	No	Freeman E, Gibbins A, Walker M, Hapeshi J. 'Look After Your Legs': patients' experience of an assessment clinic. <i>British Journal of Community Nursing</i> . 2007;12, S19-15. doi: 10.12968/bjcn.2007.12.sup1.23047
He 2024	He B, Shi J, Li L, Ma Y, Zhao H, Qin P, Ma P, Ma P	2024	Prevention strategies for the recurrence of venous leg ulcers: A scoping review.	To analyse and determine the intervention measures for preventing VLU recurrence	South East Asia	N/A	N/A	Systematic review	Scoping review	N/A	N/A	compression therapy, physical activity, health education, and self-care.	Self-care	No	He B, Shi J, Li L, Ma Y, Zhao H, Qin P, Ma P. Prevention strategies for the recurrence of venous leg ulcers: A scoping review. <i>International Wound Journal</i> . 2024; 21(3), e14759. doi: 10.1111/ijwj.14759
Kapp 2008	Kapp S, Sayers V	2008	Preventing venous leg ulcer recurrence: a review	To review of approaches to preventing VLUs and recurrence	Australia	Nil	Nil	Mixed methods	Literature review and clinician survey (n=8)	8		compression stockings, skin care	Self-care	No	Kapp S, Sayers V. Preventing venous leg ulcer recurrence: a review. <i>Wound Practice and Research</i> . 2008;16(2):38-47.
Kapp 2014	Kapp S, Miller C, Donohue L	2014	The use and acceptability of devices for compression stocking application and removal	To present findings regarding device use, as part of a RCT comparing two types of compression stockings.	Australia	Nil	Community	Quantitative	RCT	100	Nil provided	Compression application device	Self-management	No	Kapp S, Miller C, Donohue L. The use and acceptability of devices for compression stocking application and removal. <i>Wound Practice and Research</i> . 2014;22(1):34-43.
Kapp 2015	Kapp S, Miller C	2015	The experience of self-management following venous leg ulcer healing	To explore the experiences of older people as they self-managed following venous leg ulcer healing.	Australia	Metropolitan and regional	Community	Qualitative	Interview	12	10 female; 2 male. Aged 51-90	LUPP e-learning client education package - understanding VLU, venous leg ulcer treatment, activity and exercise, nutrition and hydration, skin care, and compression stocking for recurrence prevention.	Self-management	No	Kapp S, Miller C. The experience of self-management following venous leg ulcer healing. <i>Journal of Clinical Nursing</i> . 2015; 24(9/10):1300-1309. doi: 10.1111/jocn.12730
Madeira 2023	Madeira ACM, Oliveira LSN, da Silva Brandão E	2023	Self-care measures to prevent venous ulcer recurrence: a scoping review protocol	To map self-care measures to prevent venous ulcer recurrence in different healthcare settings	South America	N/A	N/A	Protocol	Systematic review	N/A	N/A	Elastic stockings, rest exercises to strengthen the calf muscle, skin hydration, and others	Self-care	No	Madeira ACM, Oliveira LSN, da Silva Brandão E. Self-care measures to prevent venous ulcer recurrence: a scoping review protocol. <i>Online Brazilian Journal of Nursing</i> . 2023;22:13-11.

Study ID	Authors	Date	Title	Aim	Country	Location	Delivery	Methodology	Method	Participants	Demographic data	Interventions	Main terms	Definition	Citation
Souza 2019	Souza FJ, Aquino JFST, Silva MAG, Oliveira MF, Dantas SRPE	2019	Noninvasive measures of venous ulcer recurrence prevention: integrative review	To identify, in the literature, noninvasive measures for prevention of venous ulcer recurrence	South America	N/A	N/A	Systematic review	Integrative review	N/A	N/A	Compressive therapy, education, and self care	Self-care	No	Souza FJ, Aquino JFST, Silva MAG, Oliveira MF, Dantas SRPE. Noninvasive measures of venous ulcer recurrence prevention: integrative review. <i>Braz J Enterostomal Ther</i> . 2019;17:1–9. doi:10.30886/estima.v17.713_IN
Stewart 2018	Stewart A, Edwards H, Finlayson K	2018	Reflection on the cause and avoidance of recurrent venous leg ulcers: An interpretive descriptive approach	To gain insight into the experience of recurrent venous leg ulcers from the individual's perspective and provide knowledge on potential risks of recurrence not previously investigated.	Australia	Metro	Community	Qualitative	Interview	7	3 male; 4 female. Aged 54–84	Lifestyle change: Compression stockings, leg elevation, regular exercises	Self-management	No	Stewart A, Edwards H, Finlayson K. Reflection on the cause and avoidance of recurrent venous leg ulcers: An interpretive descriptive approach. <i>Journal of Clinical Nursing</i> . 2018;27(5/6), e931–e939. doi: 10.1111/jocn.13994
Thompson	Thompson G	1996	Maintaining healed leg ulcers: a practical approach	To discuss the factors in maintenance of healing	United Kingdom	N/A	N/A	Expert opinion	N/A	N/A	N/A	Compression, exercise, elevation, skin care, patient education, self-directed, patient monitored	Self-directed care	No	Thompson G. Maintaining healed leg ulcers: a practical approach. <i>Community Nurse</i> .1996;2(2):14.
Venable	Venable J	2015	Prescribing compression stockings to prevent recurrent leg ulcers.	To review a case study of healed VLU, with the aim of reducing risk of further VLUs developing	United Kingdom	Nil	Unknown	Case study	Description	1	Female. Aged 69	Compression hosiery; physical activity, skin care, avoid skin trauma, elevate legs, 6-12 monthly checkups	Self-care strategies	No	Venable J. Prescribing compression stockings to prevent recurrent leg ulcers. <i>Nurse Prescribing</i> . 2015;13(1):38–42. doi: 10.12968/Npre.2015.13.1.38