

Supplementary file 1: Pubmed (MEDLINE) Search Strategy

1. "wound healing"[MeSH Terms] OR "pressure ulcer"[MeSH Terms] OR "leg ulcer"[MeSH Terms] OR "diabetic foot"[MeSH Terms] OR "skin ulcer"[MeSH Terms] OR "surgical wound"[MeSH Terms]
 2. "chronic wound*" [Title/Abstract] OR "chronic ulcer*" [Title/Abstract] OR "non-healing wound*" [Title/Abstract]
 3. "malignant wound*" [Title/Abstract] OR "fungating wound*" [Title/Abstract] OR "tumor wound*" [Title/Abstract]
 4. 1 or 2 not 3:184757
 5. "models, educational"[MeSH Terms] OR "patient education as topic"[MeSH Terms] OR "counseling"[MeSH Terms] OR "self care"[MeSH Terms] OR "self management"[MeSH Terms] OR "social support "[MeSH Terms]
 6. "patient teaching" [Title/Abstract] OR "patient training" [Title/Abstract] OR "patient guidance" [Title/Abstract] OR "patient support" [Title/Abstract] OR "patient information" [Title/Abstract] OR "patient empowerment" [Title/Abstract]
 7. "caregiver teaching" [Title/Abstract] OR "caregiver training" [Title/Abstract] OR "caregiver guidance" [Title/Abstract] OR "caregiver support" [Title/Abstract] OR "caregiver information" [Title/Abstract] OR "caregiver empowerment" [Title/Abstract]
 8. "family teaching" [Title/Abstract] OR "family training" [Title/Abstract] OR "family guidance" [Title/Abstract] OR "family support" [Title/Abstract] OR "family information" [Title/Abstract] OR "family empowerment" [Title/Abstract]
 9. 5 or 6 or 7 or 8: 282016
 10. 4 and 9: 1674
 11. Filters applied: Clinical Trial, Controlled Clinical Trial, Randomized Controlled Trial, Humans, Chinese, English, Adult: 19+ years
- Result: 71

Supplementary file 2: RISK OF Bias assessment for RCTs

Subrata et al (2020)		
Criteria	Judgement	Comments to support judgement
Sequence generation	Low	Eligible respondents were randomly assigned using a computer-generated randomization schedule
Allocation concealment	Low	This process of group allocation was protected by the researcher only
Blinding of participants and personnel for all outcomes	High	Participants were not blinded for the usual care did not include skill training and motivational interviewing
Blinding of outcome assessors	Unclear	Not stated who collected the data and whether the collector was blinded
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables
Selective outcome reporting	Low	Outcomes on study protocol were all reported
Other sources of bias	Unclear	It was not clear if the analysis adequately accounted for all confounding factors
Study: Žulec et al (2022)		
Sequence generation	High	Eligible respondents were randomly assigned depending on the order of entering the room
Allocation concealment	Unclear	It was not clearly stated how this was ensured
Blinding of participants and personnel for all outcomes	High	Participants could not be blinded to the intervention
Blinding of outcome assessors	Unclear	It was not stated who did the outcome data collection and whether the person was blinded
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables
Selective outcome reporting	Unclear	Protocol for the study not published or registered to be able assess this
Other sources of bias	Unclear	Protocol not available to able to determine if all outcomes were reported and confounding factors accounted for in analysis
Study: Satehi et al (2021)		
Sequence generation	Unclear	Details of how the randomization was done not described
Allocation concealment	Unclear	It was not clearly stated how this was ensured
Blinding of participants and personnel for all outcomes	Low	Participants were not informed the grouping results
Blinding of outcome assessors	Unclear	It was not stated who did the outcome data collection and whether the person was blinded
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables
Selective outcome reporting	Low	Outcomes on study protocol were all reported

Other sources of bias	Unclear	It was not clear if the analysis adequately accounted for all confounding factors
Study: Chen H et al (2020)		
Sequence generation	Low	Random allocation software was used to randomised participants
Allocation concealment	Low	Randomization was done with a software and the results were kept in Shanghai Qeejen Bio-tech Company
Blinding of participants and personnel for all outcomes	High	Participants could not be blinded to the intervention
Blinding of outcome assessors	Unclear	The physician and nurses did the data collection, but it was not stated if they were blinded or not
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables
Selective outcome reporting	Unclear	Protocol for the study not published or registered to be able assess this
Other sources of bias	Unclear	Protocol not available to able to determine if all outcomes were reported and confounding factors accounted for in analysis
Study: Clarke M M et al(2005)		
Sequence generation	Low	Eligible respondents were randomly assigned using a computer-generated randomization schedule
Allocation concealment	Low	The randomization list was generated by computer, and the results were entered sequentially into sealed, opaque, numbered envelopes
Blinding of participants and personnel for all outcomes	High	Participants could not be blinded to the intervention
Blinding of outcome assessors	Low	Patients were asked not to inform the interviewing doctor which group they had been randomised to
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables
Selective outcome reporting	Unclear	Protocol for the study not published or registered to be able assess this
Other sources of bias	Unclear	Protocol not available to able to determine if all outcomes were reported and confounding factors accounted for in analysis
Study: Heinen M et al(2012)		
Sequence generation	Unclear	Details of how the randomization was done not described
Allocation concealment	Unclear	It was not clearly stated how this was ensured
Blinding of participants and personnel for all outcomes	High	Participants could not be blinded to the intervention
Blinding of outcome assessors	Low	Outcome assessors had no knowledge of group allocation of participants
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables

Selective outcome reporting	Unclear	Protocol for the study not published or registered to be able assess this
Other sources of bias	Unclear	Protocol not available to able to determine if all outcomes were reported and confounding factors accounted for in analysis
Study: Heng ML et al(2020)		
Sequence generation	Low	Eligible respondents were randomly assigned using an online randomiser
Allocation concealment	Low	The randomization results were entered sequentially into sealed envelopes.
Blinding of participants and personnel for all outcomes	Low	Participants were not informed the grouping results
Blinding of outcome assessors	Unclear	It was not stated who did the outcome data collection and whether the person was blinded
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables
Selective outcome reporting	Low	Outcomes as indicated in trial register were all reported
Other sources of bias	Unclear	It was not clear if the analysis adequately accounted for all confounding factors
Study: Domingues EAR et al(2018)		
Sequence generation	Low	A randomised sequence was generated by the website randomization.com, with 120 participants in numerical sequence concealed from the investigators
Allocation concealment	Low	The randomization list was generated by computer, and the results were entered sequentially into sealed, opaque, numbered envelopes
Blinding of participants and personnel for all outcomes	High	Participants could not be blinded to the intervention
Blinding of outcome assessors	Low	Outcome assessors had no knowledge of group allocation of participants
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables
Selective outcome reporting	Low	Outcomes as indicated in trial register were all reported
Other sources of bias	High	Regarding wound area on baseline, the mean difference between two groups was 10.57, P=0.0051
Study: Sonal SM et al(2019)		
Sequence generation	Low	A randomised sequence was generated by the envelop method
Allocation concealment	Unclear	It was not clearly stated how this was ensured
Blinding of participants and personnel for all outcomes	High	Participants could not be blinded to the intervention
Blinding of outcome assessors	Unclear	It was not stated who did the outcome data collection and whether the person was blinded
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables

Selective outcome reporting	Unclear	Protocol for the study not published or registered to be able assess this
Other sources of bias	Unclear	It was not clear if the analysis adequately accounted for all confounding factors
Study: Zhou DM et al(2014)		
Sequence generation	High	A randomised sequence was generated by the order of inclusion in this period
Allocation concealment	Unclear	It was not clearly stated how this was ensured
Blinding of participants and personnel for all outcomes	High	Participants could not be blinded to the intervention
Blinding of outcome assessors	Unclear	It was not stated who did the outcome data collection and whether the person was blinded
Incomplete outcome data for all outcomes	Low	Data for all outcomes were reported in tables
Selective outcome reporting	Unclear	Protocol for the study not published or registered to be able assess this
Other sources of bias	Unclear	It was not clear if the analysis adequately accounted for all confounding factors

Supplementary file 3: Risk of Bias Assessment for non-randomized studies

	Bias due to confounding	Bias in selection of participants into the study	Bias in classification of interventions	Bias due to deviations from intended interventions	Bias due to missing data	Bias in measurement of outcome	Bias in selection of the reported result	Overall
Appil et al 2020	Moderate	Low	Low	Moderate	Low	Moderate	No information	Moderate
Damhudi D 2021	Moderate	Low	Low	Moderate	No information	Moderate	No information	Moderate
Hemmati Maslampak M 2018	Serious	Low	Low	Moderate	Moderate	Moderate	No information	Serious
Protz K 2019	Moderate	Moderate	Low	Low	Low	Moderate	Low	Moderate
Cheng H 2019	Moderate	Low	Low	Moderate	No information	Moderate	No information	Moderate
Liu X 2016	Moderate	Low	Low	Moderate	No information	Moderate	No information	Moderate

Supplementary file 4: Description of interventions

Study ID (author, year & country)	Theme of intervention	Description of the intervention(s) or exposure	Intervention type	Intervention provider and strategies
Appil R, 2020, Indonesia	Family Empowerment	In the first week, the education was provided using a picture booklet containing 'benefits of family empowerment and basic knowledge about DM.' In the second week, the education focused on diet/meal planning, medication, blood sugar control, physical exercise, and stress management. This was done through a 45-minute lecture and practice exercises, including question and answer sessions. In the third week, education about the treatment of DFU was provided. Last, in the fourth week, an evaluation meeting was conducted	Education-behavioural	Wound care nurses/ To verify the activities completed during the intervention, a logbook was provided to each participant
Chen H, 2020, china	intensive patients' education program	intensive patients' education program: which included five items: education to the patients, education to the family members of patients, supervision of patients' harmful habits and diets, psychological care for the patients and establishment of a patient-physician-nurse WeChat group	Psycho-behavioural-educational	Nurses and physicians
Clarke Moloney M,2005, Ireland	information leaflet	received verbal information along with an information leaflet	Educational	Attending doctor
Damhudi D, 2021,	diabetes self-management	The DSMES has been adapted to cover 8 core components. The subject matter covered DSME clinical definition, types	Psycho-behavioural-educational	Nurse educators; The sessions were taught in a

Indonesia	education and support (DSMES) programs	of diabetes, fundamental physiology, objectives for blood glucose control (glycemia, blood pressure, and cholesterol targets), emotional and stress management, management of healthy food, activities/training, pharmacology, blood glucose A1C self-monitoring, signs/symptoms/treatment, hyperglycemia, and sickness		collaborative setting by the entire research team, which included both certified diabetes educators who had been received training and had previous expertise in both methods of teaching
Heinen M, 2012, The Netherlands	The Lively Legs self-management programme	The intervention group received additionally to usual care, lifestyle counselling	Education-behavioural	All nurse health counselors were trained and supervised by the same group of trainers consisting of a nurse scientist, a clinical psychologist who is also a cognitive-behaviour therapist and a psychologist specialized in motivational interviewing
Hemmati Maslampak M, 2018, Iran	Orem's self-care program	The content of these sessions consisted of self-care activities related to diabetic foot care. Then, each patient in the intervention group received home visits once a week for 3 week	Education-behavioural	Nurse
Heng ML, 2020, Singapore	collaborative patient education	(a)collaboration with the patient, (b)respecting that patients are the experts of their own lives and (c)drawing out patients' intrinsic self motivation and know-hows to work towards co-creating next steps in the treatment plan.	Psycho-educational	With training in essential counselling skills, Solutions focused counselling and motivational Interviewing

		the podiatrists merely changed the way they approached their communication style and delivered the counselling within the usual treatment duration		skills enhancement courses, the study team members came together to develop an approach to patient education
Domingues EAR, 2018, Brazil	an orientation programme for the lifestyle and wound-healing process	lifestyle guidelines regarding the physiopathology of a venous ulcer, importance of compression therapy, physical exercises and rest	Education-behavioural	lead researcher
Protz K, 2019, Germany and Austria	a brochure education	a brochure about venous disease and compression therapy. The patients were asked to read the brochure carefully at home and bring it back with them to their next appointment	Educational	Medical staff
Satehi SB, 2021, Iran	Teach-Back and Multimedia Teaching	In the teach-back group, the researcher went to patients' rooms before they were discharged and provided training in a single one-on-one, face-to-face session lasting 45 minutes, using simple, understandable language free of medical terminology. At the end of these sessions, the researcher asked patients to retell the material in their own words as they understood it. In the multimedia group, the same content was used but was not provided orally in person. Instead, patients received educational videos via CD,DVD, and mobile device files. The content of these videos included everything that was taught in person in the teach-back group, and, as in that group, the education	Education-behavioural	Researcher

		lasted for 45 minutes		
Sonal Sekhar M, 2019, India	patient-education	The patients were educated by the clinical pharmacists about various foot care measures and their importance by using patient information leaflets. They were counseled about the importance of medication compliance, the need for off-loading, wound dressing, the use of properly fitting foot wear and also about annual podiatry reviews	Psycho-educational	Clinical pharmacists
Subrata SA, 2020, Indonesia	Self and family management support programs	The programs implemented intensive health education, skill training, and motivational interviewing (MI).	Psycho-behavioural-educational	Unclear
Žulec M, 2022, Croatia	Educational Intervention on Self-Care	The participants in the experimental group received the educational brochure and a short presentation of it. The brochure contained an introductory section with an explanation of the causes of VLU and their main characteristics. The central part of the brochure explained wound dressing in a step-by-step manner, with photos of real patients. After that, a section on the types and benefits of compression therapy followed, also with photographs. Special attention was paid to the importance of maintaining regular body and foot hygiene as well as promoting exercise. Descriptions of the the positions of the body at rest and nutrition advice were given. Pictures of leg exercises were shown, and special attention was given to activities for people with limited mobility. The final part included brief tips and tricks	Educational	Nurses
Cheng H,	family-based	Establish a WeChat group including of doctor, nurse and	Education-behavioural	International Chronic

2019, China	telenursing mode	patients for the observation group, and send notification information. Wound therapists provide remote intervention guidance to patients and caregivers through the WeChat platform. Wound therapists develop an individualized pressure ulcer home care plan, the main contents of the plan include: the importance of pressure ulcer home care and prevention education; Frequency, time and position guidance of turning behavior ; Pressure-reducing device application guidance; change time of wound dressing, wound exudate recording and the application method of skin protection oil; Skin cleaning and other nursing guidance; Nutrition support and guidance; Measurement method of the size and degree of pressure ulcers		Wound Commission-certified wound therapists
Liu X, 2016, China	Pressure ulcer care behavioral intervention	For each case of pressure ulcer patients, before the discharge the wound therapist made individualized pressure ulcer home care plan, the plan should fully consider the patient's own condition and the family economic situation, and on the basis of patient caregivers form, and consultation by another wound therapist at the same level, print out a copy to the family primary caregiver at discharge	Education-behavioural	Wound care therapist
Zhou DM, 2014, China	Individualized education programs	(1)Individual guidance: including pressure ulcer related knowledge guidance and care skills demonstration 2 times. after the end of the guidance provided pressure ulcer prevention and control manual and CD.(2)Family visit: to	Education-behavioural	Telephone follow-up by investigator and Individual guidance by clinical nursing experts to teach

		<p>understand the implementation of turning over and dressing change for the patients, and to evaluate the actual care behavior of the caregivers. Visit the patients whenever necessary during the intervention period. Find and deal with problems in the care process, and work with caregivers.(3) Telephone follow-up and consultation. Intervention group made a CD, including the performance of pressure ulcer, the re-position method, home dressing and disinfection equipment at home, nutrition support, skin care method. At the same time also compiled the "home pressure ulcer prevention and control manual", including the causes, prevention and FAQ etc</p>		<p>and demonstrate</p>
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Supplementary file 4: description of interventions(continued)

Author	Name of intervention	Intervention type	Intervention provider	Teaching methodology	Delivery Strategies	Format	Number of intervention sessions delivered	Intervention duration (weeks)	Intervention follow-up (weeks)
		1Educational 2behavioural 3Psychological 4psycho-behavioural 5psycho-educational 6education-behavioural 7all	1nurse 2attending doctor/physician 3researcher 4pharmacists 5medical staff/nurse and doctor 6don't know	1Didactic only 2Interactive only 3Mixed (used both)	1Web-based/online only 2Written documents only 3Video only 4Face-to-face only 5Phone calls only 6Mixed, at least two of the above	1One-to-one sessions only 2Group sessions only 3Mixed one-to-one and groups			
Appil R	Family Empowerment	6	1	3	6	3	4	4	12
Chen H	intensive patients' education program	7	5	3	6	Don't know	12	12	12
Clarke Moloney M	information leaflet	1	2	1	6	1	1	Don't know	6

Damhudi D	diabetes self-management education and support (DSMES) programs	7	1	3	6	3	8	8	12
Heinen M	The Lively Legs self-management programme	6	1	3	6	1	6	24	72
Hemmati Maslampak M	Orem's self-care program	6	1	3	4	3	5	3	12
Heng ML	collaborative patient education	5	3	2	4	1	Don't know	30min	12
Domingues EAR	an orientation programme	6	3	2	6	1	4	12	12
Protz K	a brochure education	1	5	1	2	1	1	Don't know	Don't know
Satehi SB	Teach-Back Teaching	6	3	2	4	1	1	45min	2
	Multimedia Teaching	6	3	1	3	1	1	45min	2
Sonal Sekhar M	patient-education	5	4	3	6	1	6	24	24
Subrata SA	Self and family management	7	6	3	Don't know	Don't know	24	12	12

	support programs								
Žulec M	Educational Intervention on Self-Care	1	1	1	2	1	1	Don't know	12
Cheng H	family-based telenursing mode	6	1	3	1	1	Don't know	Don't know	8
Liu X	Pressure ulcer care behavioral intervention	6	1	3	6	1	Don't know	Don't know	8
Zhou DM	Individualized education programs	6	5	3	6	1	7	12	12

Supplementary file 5: Coded Intervention Types and Delivery Strategies

Intervention elements	Number of studies
Types of Interventions identified	
Psychological	0
Educational	3
Behavioural	0
Mixed (combination of at least 2 of the above)	14
Teaching methodology	
Didactic only	4
Interactive only	3
Mixed (used both)	10
Delivery Strategies	
Web-based/online only	1
Written documents only	2
Video	1
Face-to-face only	3
Phone calls only	0
Mixed, at least two of the above	9
Unclear	1
Format	
One-to-one sessions only	12
Group sessions only	0
Mixed one-to-one and groups	3
Unclear	2
Number of intervention sessions delivered	
≤5 sessions	8
6 – 10	4
≥11	2
Unclear	3
Duration of intervention	
<1day	3
1day-4weeks	2
5-12 weeks	5
≥13 weeks	2
Unclear	5
Duration of follow up	
≤4 weeks	2
5-12 weeks	12
≥13 weeks	2
Unclear	1