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Discharge preparation services in patients with DPN: an evidence summary

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Abstract: *This study primarily involved a systematic review of literature published between 2020 and October 2025 from databases including UpToDate, BMJ Best Practice, Cochrane Library, NICE, GIN, RNAO, PubMed, Embase, CNKI, WanFang, VIP, and SinoMed. The literature focused on clinical practice guidelines, evidence summaries, systematic reviews, and expert consensus regarding discharge planning services for patients with diabetic peripheral neuropathy. Two researchers independently evaluated the quality of the literature and extracted relevant data. A total of 13 articles were ultimately included, and after integrating their content, 29 pieces of best evidence were synthesized*

Keywords: *Diabetic peripheral neuropathy; discharge preparation service; evidence-based nursing; evidence summary*

1. Introduction

Diabetes has become the third most prevalent chronic disease globally, following cardiovascular diseases and cancer[1]. Its most common chronic complication, diabetic peripheral neuropathy (DPN), is defined as peripheral nerve dysfunction after exclusion of other causes and is associated with substantial patient burden, increased morbidity, and higher mortality[2]. Recognized as a major risk factor for diabetic foot[3], DPN necessitates comprehensive management. In China, healthcare reforms aimed at alleviating resource constraints have shortened hospital stays[4], which often leads to incomplete physiological recovery and diminished readiness for discharge. Readiness for Hospital Discharge (RHD), first defined by Fenwick in 1979[5], refers to a multidimensional evaluation by healthcare providers of a patient's physical, psychological, and social preparedness to transition from hospital to home or other care settings. As a crucial link between inpatient and post-discharge care, RHD plays a vital role in ensuring continuity of health services[6].

2. Object and Method

2.1 The establishment of the problem

Evidence-based questions were structured using the PIPOST framework[7], comprising: Population (P) – diabetic peripheral neuropathy patients; Intervention (I) – discharge preparation and continuity of care; Professional (P) – healthcare providers; Outcome (O) – discharge readiness, quality of discharge guidance, unplanned readmission; Setting (S) – endocrinology department; Type of evidence (T) – guidelines, expert consensus, clinical decisions, evidence summaries, systematic reviews, and RCTs.

2.2 Literature retrieval strategy

Based on the evidence-based 6S model, a comprehensive literature search was conducted using a combination of subject headings and keywords. Chinese databases including CNKI, VIP, WanFang, and CBM were searched with terms: ("diabetic peripheral neuropathy" OR variants) AND (discharge preparation service OR discharge readiness OR discharge guidance OR discharge plan). English databases (PubMed, Embase, Web of Science, Cochrane Library) were queried using: ("diabetes peripheral neuropathy" OR related terms) AND ("discharge preparation" OR "discharge readiness" OR

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"discharge guidance" OR "discharge plan"). The search encompassed guidelines, consensus documents, and relevant literature published between 2020 and October 1, 2025, with subsequent synthesis of retrieved evidence.

2.3 Literature Inclusion and Exclusion Criteria

Inclusion Criteria: Studies were included if they: (1) involved patients with diabetes and diabetic peripheral neuropathy; (2) addressed discharge preparation services, transitional care, or continuity of care; (3) were guidelines, expert consensus, clinical decisions, evidence summaries, systematic reviews, or randomized controlled trials; and (4) were published in Chinese or English. Exclusion Criteria: Studies were excluded if they: (1) had incomplete content or unavailable full text; (2) were of low methodological quality; or (3) were duplicate publications.

2.4 Literature Screening Process and Results

Two researchers independently conducted literature retrieval, initially identifying 2,316 publications (187 in Chinese, 2,129 in English). After removing 90 duplicates and screening titles and abstracts, 2,159 irrelevant records were excluded. Following full-text review and quality assessment, 12 articles[8-20] were ultimately included, comprising: 1 meta-analysis, 1 evidence summary, 3 randomized controlled trials, 5 guidelines, 1 systematic review, and 1 expert consensus. The basic characteristics of included literature are presented in Table 1.

Table 1. Characteristics of included studies

Publishing Organization/First Author	Included Studies	Publication Year	Sources of Literature	Literature types
Lu X et al[8]	Effect of discharge planning on blood glucose and self-management in diabetic patients:a Meta- analysis	2023	CNKI	Meta- analysis
Lansang M D et al[9]	Inpatient Hyperglycemia and Transitions of Care: A Systematic Review	2021	PubMed	Systematic Review
Huang K et al[10]	Effect of peer education and exercise therapy on quality of life in elderly patients with diabetic peripheral neuropathy	2022	CNKI	Randomized Controlled Trial
Qi-yuan Lyu et al[11]	Effects of a nurse led web-based transitional care program on the glycemic control and quality of life post hospital discharge in patients with type 2 diabetes: A randomized controlled trial	2021	PubMed	Randomized Controlled Trial
Cheng Y[12]	Effects of discharge preparation nursing services on blood glucose control in patients with type 2 diabetes after discharge	2023	WanFang	Randomized Controlled Trial
Zhou FY et al[13]	Discharge preparation services in patients with diabetes: an evidence summary	2024	CNKI	Evidence Summary
Andrew P et al[14]	Inpatient diabetes management	2024	PubMed	Expert Guidelines
The British Diabetic Association[15]	Discharge planning for adults with diabetes	2022	The British Diabetic Association	Expert Guidelines
The British Diabetic Association[16]	Self-management of diabetes in hospital	2021	The British Diabetic Association	Expert Guidelines
Davis J et al[17]	2022 National Standards for Diabetes Self-Management Education and Support	2022	American Diabetes Association	Expert Guidelines
Sun C et al[18]	Expert consensus on the discharge planning for hospitalized elderly	2020	CNKI	Expert Consensus

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	patients(version 2019)			
Branch Group of Neurological Complications, Chinese Diabetes Society[19]	National guidelines for the diagnosis and treatment of diabetic neuropathy in primary care (2024 edition)	2024	China Medical Journals Full-text Database	Expert Guidelines

2.5 Quality evaluation of literature

The quality of the included evidence was assessed using established methodological tools for each study type: systematic reviews and meta-analyses were evaluated with AMSTAR II (16 items)[20], randomized controlled trials were appraised for risk of bias across seven domains according to the Cochrane Handbook, clinical guidelines were assessed using the AGREE instrument[21], and expert consensus publications were evaluated based on JBI Centre for Evidence-Based Health Care criteria[22].

2.6 Results of Literature Quality Evaluation

(1) The included studies, assessed for methodological quality, comprised: One systematic review and one meta-analysis, both of which fulfilled all quality criteria ("yes" on all items) and were included; Three randomized controlled trials, which were graded Level B due to "unclear" ratings on several key items (allocation concealment, blinding of participants and therapists) but were included after team discussion; Four guidelines, all of which received an A-level recommendation upon evaluation and were included.

(2) Other type of literature: The two systematic reviews[23,24] informing clinical decisions were included after demonstrating high methodological quality, meeting all criteria. This study also incorporated an evidence summary by Zhou et al.[13], four guidelines[15,25–27], and six systematic reviews[8,9,29–31]. Among these, two systematic reviews[8,9], and one guideline[15] were directly included. Three guidelines were graded A-level and one B-level; all met inclusion criteria. The expert consensus[28] received "yes" ratings across all items. Among systematic reviews, one[29] was rated "unclear" on one item, while others scored "yes" on all. Following research group discussion, all studies were deemed methodologically sound and included.

2.7 Summary of Evidence

Through evidence synthesis, this study developed 29 recommendations across three domains: purpose, principles, and implementation phases. The JBI evidence grading and recommendation system was applied, which classifies evidence into levels 1 (highest) to 5 (lowest) and assigns recommendation strengths as A (strong) or B (weak). When multiple evidence sources presented different levels for the same item, the highest level was selected. A summary of the evidence is provided in Table 2.

Table 2 Summary of Evidence

Project	Supporting Evidence	Levels of Evidence	Recommendation Level
Principle	Multidisciplinary cooperation to formulate a discharge preparation service plan[9,11,13,17]	5b	A
	A multidisciplinary team shall develop comprehensive discharge plans, actively engaging both patients and their families in the process.[15]	5b	A
	Inpatients, medical staff and their families should participate in the formulation of nursing channels and discharge plans.[15]	5b	A
	Provide training for the implementation personnel of discharge preparation services[13]	1b	A
	The intervention targets of discharge preparation services include patients and primary caregivers.[10,17]	5b	B
	Adapt to individual needs and provide personalized guidance[10,12]	1c	A
In-hospital services	A specialized nurse with extensive practical experience serves as the 'coordinator', responsible	5b	A

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	for overseeing all aspects of discharge planning services for patients.[19]		
	Provide training for members of the discharge preparation service team[17]	5b	A
	Conduct an overall evaluation of the patient within 24 hours of admission[8,11,13]	1b	A
	Patient education shall be tailored to clinical status, age, and educational background, including disease management, DPN pathophysiology, glucose self-monitoring, and lifestyle guidance.[10,12,14]	5b	B
In-hospital services	Regular assessment of the lower limbs and feet is essential, focusing on skin integrity, color changes, and specific nursing needs.[10,13,17]	1c	A
	Patients should maintain foot warmth and moisture to prevent dryness and cracking by wearing well-fitted cotton socks with breathable footwear, while avoiding thermal injury risks from hot water bottles or electric blankets.[17,18]	5b	A
	Patients should be advised to avoid prolonged squatting, crossing legs, elbow flexion, and excessive wrist extension/flexion to prevent nerve compression syndromes.[18]	5b	A
	Regular blood glucose monitoring should be implemented to prevent significant fluctuations, with target ranges adjusted according to individual patient characteristics.[14,18]	5b	A
	Self-management education for patients: including accurate medication, blood sugar self-monitoring, identification of hyperglycemia and hypoglycemia, formulation of dietary plans, time and dosage of glucose-lowering drugs and insulin administration[12,14,16]	5b	B
	Guide patients to establish a healthy lifestyle, control their weight, and avoid smoking and drinking alcohol.[11,18]	5b	A
	Teach-back method implementation: Healthcare providers should ask patients or caregivers to restate the newly learned concepts in their own words to verify comprehension.[14]	5b	B
	Encourage patients and their families to participate in the formulation of self-management plans.[8,9]	1a	B
	Peer support, patient communication[10,17]	5b	B
Pre-discharge service	Prior to discharge, patients will receive a contact card with direct contact information for their assigned nurse, nursing supervisor, and attending physician, enabling them to seek personalized guidance and support as needed.[12,13,15]	1b	A
	A comprehensive checklist encompassing medication management, blood glucose monitoring, patient education, and outpatient follow-up will be provided to ensure patients and/or caregivers are fully informed of essential healthcare requirements.[14]	1c	A
	Medication Reconciliation: Provide patients with detailed documentation including: Pre-admission medication list、Discharge medication regimen、All medication changes made during hospitalization with corresponding clinical rationale.[9,15]	5b	A
	Establish post-discharge support groups to provide patients with a safe environment where they can: Learn from peers with similar conditions、Share personal experiences and coping strategies、Address concerns through open discussion 、 Process challenges in a supportive setting[10,15]	1c	B

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	Discharge instructions should be tailored to the patient's age and educational background, utilizing clear, patient-friendly language to ensure comprehension.[13]	5b	A
Post-hospital follow-up visit	Schedule post-discharge follow-up appointments prior to patient release.[19]	5b	A
	It is recommended that patients receive a neuropathy screening at least once per year.[19]	5b	A
	Implemented regular follow-up through telephone contact and home visits enables healthcare providers to monitor glycemic control, track fluctuations, optimize management strategies, and effectively mitigate disease progression.[12]	1c	A
	Establish a dedicated telehealth platform to facilitate real-time consultations between patients and medical specialists.[13]	5b	A

3. Discussion

The evidence synthesis outlines a comprehensive discharge planning framework for diabetic peripheral neuropathy, spanning from hospitalization to post-discharge care. Key in-hospital strategies include initiating care with a coordinator-led assessment within 24 hours of admission and providing personalized self-management education, reinforced by the teach-back method. Prior to discharge, essential practices involve medication reconciliation, providing a comprehensive checklist and a clinical contact card, and establishing post-discharge support groups. Follow-up care is ensured through scheduled appointments, regular neuropathy screenings, and sustained support via telehealth and home visits. This multi-phase, patient-centered approach, supported predominantly by Level 5b evidence and strong (A) recommendations, facilitates a seamless transition from hospital to home.

4. Conclusion

This study provides a foundational framework for DPN discharge preparation by synthesizing evidence on its purpose, principles, and procedures. While offering a key reference for adaptable clinical implementation, the recommendations warrant further validation through implementation science and outcome research to solidify their practical effectiveness.

References

[1] Saeedi P, Petersohn I, Salpea P, Malanda B, Karuranga S, Unwin N, Colagiuri S, Guariguata L, Motala AA, Ogurtsova K, Shaw JE, Bright D, Williams R; IDF Diabetes Atlas Committee. Global and regional diabetes prevalence estimates for 2019 and projections for 2030 and 2045: Results from the International Diabetes Federation Diabetes Atlas, 9 edition. Diabetes Res Clin Pract. 2019 Nov;157:107843.

[2] Williams R, Karuranga S, Malanda B, Saeedi P, Basit A, Besançon S, Bommer C, Esteghamati A, Ogurtsova K, Zhang P, Colagiuri S. Global and regional estimates and projections of diabetes-related health expenditure: Results from the International Diabetes Federation Diabetes Atlas, 9th edition. Diabetes Res Clin Pract. 2020 Apr;162:108072.

[3] Schaper NC, Van Netten JJ, Apelqvist J, Lipsky BA, Bakker K; International Working Group on the Diabetic Foot (IWGDF). Prevention and management of foot problems in diabetes: A Summary Guidance for Daily Practice 2015, based on the IWGDF guidance documents. Diabetes Res Clin Pract. 2017 Feb;124:84-92.

[4] Lin J, Zhou J, Wang L. Health care reform in China from the perspective of physicians. Biosci Trends. 2020 May 21;14(2):151-155.

[5] Fenwick AM. An interdisciplinary tool for assessing patients' readiness for discharge in the rehabilitation setting. J Adv Nurs. 1979 Jan;4(1):9-21.

[6] Weiss ME, Bobay KL, Bahr SJ, Costa L, Hughes RG, Holland DE. A Model for Hospital Discharge Preparation: From Case Management to Care Transition. J Nurs Adm. 2015 Dec;45(12):606-14.

[7] Zhu Z, Hu Y, Zhou YF, et al.Promoting the transformation of evidence to clinical practice: Research topic selection and problem construction[J].Journal of Nurses Training ,2020,35(09):796-799.

[8] Lu Xu, Yin W, Liu QY, et al. Effect of discharge planning on blood glucose and self-management in

ISSN 2616-5791 Vol. 6, Issue 9: 64-70, DOI: 10.25236/AJMHS.2025.060910

diabetic patients:a Meta-analysis[J].Journal of Nursing Administration, 2023,23(01):47-51.
[9] Lansang MC, Zhou K, Korytkowski MT. Inpatient Hyperglycemia and Transitions of Care: A Systematic Review. Endocr Pract. 2021 Apr;27(4):370-377.
[10] Huang K, Deng ZJ, Zhang Y, et al. Effect of peer education and exercise therapy on quality of life in elderly patients with diabetic peripheral neuropathy[J].Chinese Journal of Gerontology, 2022, 42(21):5248-5251.
[11 Lyu QY, Huang JW, Li YX, Chen QL, Yu XX, Wang JL, Yang QH. Effects of a nurse led web-based transitional care program on the glycemic control and quality of life post hospital discharge in patients with type 2 diabetes: A randomized controlled trial. Int J Nurs Stud. 2021 Jul;119:103929.
[12] Cheng Y. Effects of discharge preparation nursing services on blood glucose control in patients with type 2 diabetes after discharge[J]. Chinese Journal of Modern Nursing,2023,2(5).
[13] Zhou FY, Guo CB, Long KY, et al. Discharge preparation services in patients with diabetes: an evidence summary[J].Chinese Nursing Management,2024,24(04):535-540.
[14] Demidowich AP, Stanback C, Zilbermint M. Inpatient diabetes management. Ann N Y Acad Sci. 2024 Aug;1538(1):5-20.
[15] Discharge planning for adult inpatients with diabetes. https://abcd.care/sites/default/files/site_uploads/JBDS_Guidelines_Current/JBDS_10_Discharge_Planning_Guideline_with_QR_code_March_2023.pdf
[16] Self-management of diabetes in hospital. https://abcd.care/sites/default/files/site_uploads/JBDS_Guidelines_Archive/JBDS_04_Self_Management_Updated_August_2021_Archive.pdf
[17] Davis J, Fischl AH, Beck J, Browning L, Carter A, Condon JE, Dennison M, Francis T, Hughes PJ, Jaime S, Lau KHK, McArthur T, McAvoy K, Magee M, Newby O, Ponder SW, Quraishi U, Rawlings K, Socke J, Stancil M, Uelmen S, Villalobos S. 2022 National Standards for Diabetes Self-Management Education and Support. Diabetes Care. 2022 Feb 1;45(2):484-494.
[18] Sun C, Xi H, Li Z, et al. Expert consensus on the discharge planning for hospitalized elderly patients(version 2019)[J].Chinese Journal of Nursing,2020,55(02):220-227.
[19] Branch Group of Neurological Complications Chinese Diabetes Society, National Office of Basic Public Health Service Program for Primary Diabetes Care. National guidelines for the diagnosis and treatment of diabetic neuropathy in primary care (2024 edition). Chinese Journal of Diabetes, 2024, 16(05):496-511.
[20] Yang WM, Dong Y, Shen J.AMSTAR 2 Quality Evaluation and GRADE Evidence Classification ofSystematic Review of Acupuncture Therapy for Knee Osteoarthritis[J].Chinese Journal of Information on Traditional,2021,28(10):45-50.
[21] Brouwers MC, Kho ME, Browman GP, Burgers JS, Cluzeau F, Feder G, Fervers B, Graham ID, Grimshaw J, Hanna SE, Littlejohns P, Makarski J, Zitzelsberger L; AGREE Next Steps Consortium. AGREE II: advancing guideline development, reporting and evaluation in health care. CMAJ. 2010 Dec 14;182(18):E839-42.
[22] Hu Yan, Hao Yufang Evidence based nursing [M]. 2nd edition Beijing: People's Health Publishing House, 2018:77.
[23] Shepperd S, Lannin NA, Clemson LM, McCluskey A, Cameron ID, Barras SL. Discharge planning from hospital to home. Cochrane Database Syst Rev. 2013 Jan 31;(1):CD000313.
[24] Mueller SK, Sponsler KC, Kripalani S, Schnipper JL. Hospital-based medication reconciliation practices: a systematic review. Arch Intern Med. 2012 Jul 23;172(14):1057-69.
[25] Blonde L, Umpierrez GE, Reddy SS, McGill JB, Berga SL, Bush M, Chandrasekaran S, DeFronzo RA, Einhorn D, Galindo RJ, Gardner TW, Garg R, Garvey WT, Hirsch IB, Hurley DL, Izuora K, Kosiborod M, Olson D, Patel SB, Pop-Busui R, Sadhu AR, Samson SL, Stec C, Tamborlane WV Jr, Tuttle KR, Twining C, Vella A, Vellanki P, Weber SL. American Association of Clinical Endocrinology Clinical Practice Guideline: Developing a Diabetes Mellitus Comprehensive Care Plan-2022 Update. Endocr Pract. 2022 Oct;28(10):923-1049.
[26] Sinclair AJ, Dashora U, George S, Dhatariya K; JBDS-IP Writing Group. Joint British Diabetes Societies for Inpatient Care (JBDS-IP) Clinical Guideline Inpatient care of the frail older adult with diabetes: an Executive Summary. Diabet Med. 2020 Dec;37(12):1981-1991.
[27] ElSayed NA, Aleppo G, Aroda VR, Bannuru RR, Brown FM, Bruemmer D, Collins BS, Hilliard ME, Isaacs D, Johnson EL, Kahan S, Khunti K, Leon J, Lyons SK, Perry ML, Prahalad P, Pratley RE, Seley JJ, Stanton RC, Gabbay RA, on behalf of the American Diabetes Association. 16. Diabetes Care in the Hospital: Standards of Care in Diabetes-2023. Diabetes Care. 2023 Jan 1;46(Suppl 1):S267-S278.
[28] Wang YM, Li M, Pan XX, et al. Synthesis of systematic reviews on effectiveness of transitional care for diabetes patients[J].Journal of Nursing Science,2018,33(20):95-98.

ISSN 2616-5791 Vol. 6, Issue 9: 64-70, DOI: 10.25236/AJMHS.2025.060910

[29] Shiferaw WS, Akalu TY, Desta M, Kassie AM, Petrucka PM, Aynalem YA. Effect of educational interventions on knowledge of the disease and glycaemic control in patients with type 2 diabetes mellitus: a systematic review and meta-analysis of randomised controlled trials. BMJ Open. 2021 Dec 9;11(12):e049806.
[30] Jayakody A, Bryant J, Carey M, Hobden B, Dodd N, Sanson-Fisher R. Effectiveness of interventions utilising telephone follow up in reducing hospital readmission within 30 days for individuals with chronic disease: a systematic review. BMC Health Serv Res. 2016 Aug 18;16(1):403.
[31] Gonçalves-Bradley DC, Lannin NA, Clemson L, Cameron ID, Shepperd S. Discharge planning from hospital. Cochrane Database Syst Rev. 2022 Feb 24;2(2):CD000313.