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REVIEW

Optimal Evidence Summary for Discharge Preparation in Elderly Chemotherapy Patients

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Objective: This study aims to systematically search, screen, evaluate, and synthesize evidence related to discharge preparation for elderly chemotherapy patients, providing an evidence-based reference for implementing discharge preparation services for this demographic.

Methods: Systematic searches were conducted on databases including BMJ Best Clinical Practice, JBI Library, UpToDate Clinical Advisor, Cochrane Library, and relevant guideline websites. The collected literature comprised thematic summaries, clinical practice guidelines, technical reports, expert consensus, and systematic reviews related to discharge preparation for elderly chemotherapy patients. Relevant evaluation tools were selected based on the type of literature to assess methodological quality, and the evidence was extracted, summarized, and organized.

Results: Fifteen pieces of evidence were selected according to inclusion and exclusion criteria, including one clinical decision, two expert consensuses, six systematic reviews, two meta-analyses, and four guidelines. Twenty-nine pieces of evidence were summarized across four domains: assessment, planning, implementation, and evaluation.

Conclusion: The summarized evidence provides a reliable basis for implementing evidence-based discharge preparation services for elderly chemotherapy patients, laying a foundation for future clinical practice applications. Based on the evidence content and relevant literature, this paper explores the screening and evaluation tools applicable for use in clinical practice.

Keywords: elderly, chemotherapy, discharge preparation, evidence-based nursing, evidence synthesis, review

Introduction

Discharge planning, an integral component of hospital services, encompasses developing a comprehensive post-discharge care strategy or facilitating the transfer to subsequent care services for patients and their caregivers.[1] This process is crucial for ensuring treatment continuity and enhancing patient adherence and adjustment to care protocols post-discharge. With the world's fastest-growing and largest elderly population, China faces a direct upsurge in the number of individuals predisposed to malignancies, resulting in a rapid increase in cancer incidence and related mortality rates.[2] Specifically, the incidence of cancer among the elderly Chinese demographic constitutes 55.8% of the nation's total cancer cases.[3] Given the prevalence of comorbid conditions and the manifestation of geriatric syndromes, chemotherapy emerges as a prevalent modality for treating cancer in the elderly. However, this patient group encounters heightened challenges due to the pronounced limitations and adverse reactions associated with chemotherapy treatments.[4]

The limited duration of in-hospital treatment necessitates discharging patients to continue their recovery at home, underlining the pivotal role of effective discharge management. This management is essential for maintaining the continuum of oncological care and improving the life quality for elderly oncology patients. Current research, both within China and internationally, provides a vast body of literature on discharge planning for the elderly.[5] However, the information is often fragmented and overwhelming, lacking the targeted, thematic distillation required to offer succinct, actionable guidance for nursing professionals and patients.

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To address this gap, the present study concentrates on discharge preparation for the elderly chemotherapy patients, aiming to systematically collate and summarize evidence through evidence-based methodologies. The objective is to arm nursing professionals with a robust theoretical foundation for implementing discharge planning tailored to this demographic. This synthesis is focused on elderly patients undergoing chemotherapy within conventional medical facilities. The findings are intended to serve as a reliable, condensed guide for clinical application, facilitating the translation of evidence-based practices into bedside nursing. This initiative is a part of the Evidence Translation and Clinical Application Project led by the Evidence-Based Nursing Center at Fudan University (Fudanebn202335).

Materials and Methods

Study Design and Setting

This study employs the PIPOST framework to construct evidence-based questions,[6] defining the inclusion criteria based on specific issues as follows: a) The target population for the evidence application is elderly oncology patients undergoing chemotherapy during hospitalization. b) The intervention method is discharge planning services, which encompass admission assessment, treatment plan evaluation, discharge service planning, implementation, and post-discharge evaluation. c) Professionals applying the evidence include oncology nurses and physicians. d) Outcome indicators are the readiness for discharge, adherence (patient outcomes); knowledge related to discharge planning services and rate of process implementation (implementer outcomes); discharge preparation process for elderly chemotherapy patients, and quality of discharge preparation (system outcomes). e) The evidence application settings are hospital oncology departments and related caregiving institutions. f) The types of evidence selected are thematic evidence syntheses, clinical practice guidelines, expert consensus, and systematic reviews. Exclusion Criteria: Given the focus of this evidence summary on the discharge preparation of elderly chemotherapy patients, evidence unrelated to this theme is excluded.

Evidence Search Strategy

For the retrieval of relevant literature, the search strategy was aligned with the "6S" hierarchy of evidence resources and a top-down search principle.[7] Systematic electronic searches were performed across websites such as BMJ Best Clinical Practice, UpToDate Clinical Advisor Library, and the Cochrane Library. Further searches were extended to include the Campbell Collaboration, Global Initiative for Nursing (GIN), Medlive Clinical Guidelines, the Registered Nurses' Association of Ontario (RNAO), the UK's National Institute for Health and Care Excellence (NICE), and the Scottish Intercollegiate Guidelines Network (SIGN) to access evidence-based resource databases. Supplementary searches were carried out in comprehensive databases including PubMed, EMBASE, National Comprehensive Cancer Network (NCCN), and American Society Of Clinical Oncology(ASCO).

We also searched the following Chinese databases: CNKI (China National Knowledge Infrastructure), VIP (Chinese Science and Technology Periodical Database), Wanfang Database, China Medical Journal Full-text Database, and China Biology Medicine disc, as well as specialised oncology websites such as China Anti-cancer website. China Medical Journal Full-text Database, and China Biology Medicine disc, as well as specialty oncology websites such as China Anti-cancer Association (CACA).

The types of evidence included were thematic evidence syntheses, clinical practice guidelines, expert consensus, and systematic reviews. When searching clinical decision-making platforms, recommended practices, evidence syntheses, clinical practice guidelines, and professional society websites, search terms were utilized as follows. Chinese search terms included: "elderly aging/old age",'chemotherapy/chemotherapeutic treatment', "discharge plan/discharge preparation plan/dis-charge guidance/discharge services/inpatient comprehensive management/discharge health education/discharge management/hospital management/continuing care".

English search terms included: "older populations/older people/old*", "chemotherapy", "discharge planning/ Discharge plan/Discharge preparation plan/discharge guidance/discharge services/full h-ospitalization management/discharge health education/discharge management/hospitalization m-anagement/continuing care".

The Chinese search strategy was: (Keywords = elderly + aging + old age + chemotherapy + chemotherapeutic treatment) AND (Keywords = discharge plan + discharge preparation plan + discharge guidance + discharge services +

inpatient comprehensive management + discharge health education + discharge management + hospital management) AND (guidelines + expert consensu-s + systematic review + meta-analysis + evidence summary).

The English search strategy was:

(((odder populations [Title/Abstract] OR (older people [Title/Abstract]) OR (chemotherapy [Title/Abstract])) AND (((discharge planning [Title/Abstract]) OR (Discharge plan [Title/Abstract])) OR (Discharge readiness [Title/Abstract])). The search covered literature from the inception of each database up to January 2024.The flowchart of literature screening is shown in Figure 1.

Evidence Quality Appraisal

The study team rigorously appraised the quality of the evidence, selecting appraisal tools congruent with the specific evidence formats. Guideline documents were evaluated using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) framework, renowned for its methodological rigor.[8] For systematic reviews and consensus statements, the Joanna Briggs Institute's (JBI) critical appraisal instruments were utilized, acknowledged for their comprehensive assessment criteria.[9] This appraisal was meticulously conducted by two evaluators, proficient in evidence-based methodology, ensuring an unbiased and thorough evaluation. Discrepancies between assessors were resolved through

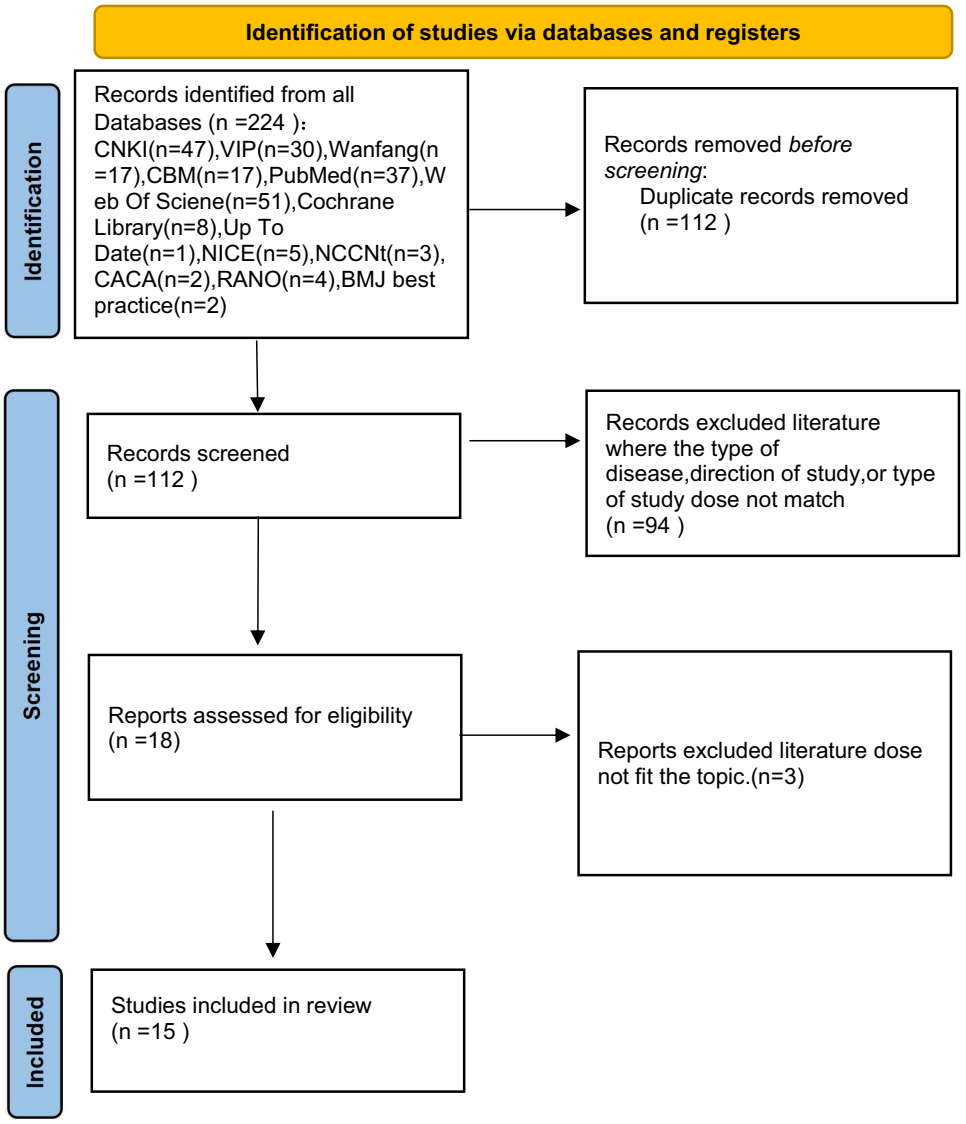

Figure 1 The flowchart of literature screening.

deliberative consultation with a third, experienced team member to establish a unanimous conclusion, thereby reinforcing the validity of the quality assessment process.

Process and Methods for Reviewing Evidence

A total of 10 healthcare professionals were invited to join the expert group, comprising one associate chief nurse, two chief physicians, and seven supervisor nurses. These individuals were selected based on their extensive clinical experience and familiarity with the process of discharging geriatric chemotherapy patients. The expert meeting was conducted in March 2024. Based on an evaluation of the FAME scale (feasibility, appropriateness, meaningfulness, and effectiveness of the evidence), as well as the evidence transformation sites, medical resources, and staffing ratios, we conducted a comprehensive review of the evidence article by article. This process ultimately led to the inclusion of 29 pieces of evidence. The FAME scale form in Supplementary Material 1. The experts invited to participate in the meeting met the following criteria: a)They were clinical medicine, nursing, pharmacy experts, and nutritional specialists working in oncology chemotherapy. b) They held intermediate or higher titles, a bachelor's degree or higher, and 10 or more years of work experience in related fields. c)They were familiar with the treatment, nursing care, and rehabilitation of oncology chemotherapy patients.

Analytical Framework

The team meticulously reviewed the literature included post-screening, performing evidence extraction and synthesis. When encountering discrepancies in evidence conclusions or content from different sources, precedence was given to evidence of higher quality and more recent publication. For evidence lacking a grading system, the "2014 JBI Evidence Hierarchy and Recommendation Levels" was employed.[10] Details of the 2014 JBI Evidence Hierarchy and Recommendation Levels are provided in Supplementary Material 2. Clinical practice guidelines, recommended practices, and evidence syntheses retained their inherent grading systems. This process was informed by the original literature types that contributed to the generation of the best evidence, allowing for a stratified approach to grading diverse evidence sources. Subsequent to evidence extraction, two researchers from our team independently assigned grades to the evidence. Where opinions diverged, a third researcher joined the discussion to reach a consensus. All personnel involved in the production and writing of this evidence synthesis were systematically trained in evidence-based nursing methodology and possess extensive practical experience within this domain.

Results

Evidence Retrieval Results

A total of 224 articles were retrieved from both domestic and international databases. After screening using NoteExpress literature management software, 112 duplicate articles were removed. By reviewing the title and abstract sections, 94 articles that did not match the research content and type were removed. Subsequently, 3 articles that did not match the research topic were removed based on the full-text content, and finally, 15 articles were included. The evidence screening process is shown in Figure 1.

General Characteristics of the Included Literature

This study included one clinical decision,[11] two expert consensus,[1,12] six systematic reviews,[13–18] two meta-analyses,[19,20] and four clinical guidelines.[21–24] The general characteristics of the included literature is shown in Table 1.

Quality Evaluation Results of the Included Studies

This study included two expert consensus papers,[1,12] respectively from China National Knowledge Infrastructure and PubMed. The evaluation results for item 6 of the expert consensus on whether there are any inconsistencies between the viewpoints proposed and previous literature are all "no", while the other items are all "yes". The overall quality is high and it is allowed to be included. Six systematic reviews and two meta-analyses,[13–20] and four clinical guidelines were published within 10 years.[21–24] The study design is relatively complete, and after quality evaluation of the methodology, the overall quality is high, and it is allowed to be included. See Tables 2–5.

Table 1 Characteristics of the Included Studies

Author	Literature Source	Literature Theme/Content	Publication Time	Evidence Type
Alper E et al[11]	Up to date	Hospital discharge and readmission.	2023	Evidence-based clinical decision
Sun et al[1]	CNKI	Expert Consensus on Discharge Preparation Services for Older Patients (2019 Edition)	2019	Expert consensus
Ninomiya K et al[12]	PubMed	Significance of the comprehensive geriatric assessment in the administration of chemotherapy to older adults with cancer: Recommendations by the Japanese Geriatric Oncology Guideline Committee	2023	Expert consensus
Coffey A et al[13]	PubMed	Interventions to Promote Early Discharge and Avoid Inappropriate Hospital (Re) Admission: A Systematic Review.	2019	Systematic Review.
Gonçalves D et al[14]	Cochrane	Discharge planning from hospital (Review)	2022	Systematic Review.
Williams S et al[15]	BMJ	Early supported discharge for older adults admitted to hospital with medical complaints: a protocol for a systematic review	2021	Systematic Review.
Cedric C et al[16]	JBI	Effectiveness of nursing discharge planning interventions on health-related outcomes in discharged elderly inpatients: a systematic review	2016	Systematic Review.
Cédric C et al[19]	PubMed	Meta-analysis of the effectiveness of nursing discharge planning interventions for older inpatients discharged home	2018	Meta-analysis
Gai et al[17]	CNKI	A systematic review of the intervention effect of hospital discharge preparation service on elderly patients with chronic diseases	2020	Systematic Review.
Dong et al[20]	CNKI	Meta-analysis of the effect of a mind-mapping health education intervention on patients' readiness for hospital discharge	2023	Meta-analysis
Zou D et al[18]	PubMed	The benefits of transitional care in older patients with chronic diseases: a systematic review and meta-analysis.	2022	Systematic Review.
NCCN.[21]	NCCN	NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) Older Adult Oncology	2023	Guideline
NICE.[22]	NICE	Transition between inpatient mental health settings and community or care home settings	2016	Guideline
CACA.[23]	CACA	Chinese Guidelines for Integrated Cancer Care (CACA) Geriatric Protection	2023	Guideline
CACA.[24]	CACA	Chinese Guidelines for Integrated Cancer Diagnosis and Treatment Techniques (CACA) Integrated Care	2023	Guideline

Abbreviations: CNKI, China National Knowledge Infrastructure; NCCN, National Comprehensive Cancer Network; NICE, The National Institute for Health and Care Excellence; CACA, China Anti-cancer Association.

Table 2 Methodological Quality Evaluation of the Expert Consensus (n=2)

Evaluation Items	Evaluation Results	
	Sun et al[1]	Ninomiya K et al[12]
1. Is the source of the viewpoint clearly indicated?	Yes	Yes
2. Does the viewpoint come from influential experts in the field?	Yes	Yes
3. Is the proposed viewpoint centered around the interests of the relevant population being studied?	Yes	Yes
Is the conclusion presented based on the analysis results? Is the expression of viewpoints logical?	Yes	Yes
5. Did you refer to other existing literature?	Yes	Yes
6. Is there any inconsistency between the proposed viewpoint and previous literature?	Yes	Yes
1. Is the source of the viewpoint clearly indicated?	No	No

Table 3 Methodological Quality Evaluation of the Systematic Review and Meta-Analysis (n=8)

Evaluation Items	Evaluation Results							
	Coffey A et al[13]	Gonçalves D et al[14]	Williams S et al[15]	Cedric C et al[16]	Cdric C et al[19]	Gai et al[17]	Dong et al[20]	Zou D et al[18]
1. Are the evidence-based questions raised clear and explicit	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Is the inclusion criteria for literature appropriate for this evidence-based question	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Is the retrieval strategy appropriate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4. Is the database or resources for searching literature sufficient	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5. Is the literature quality evaluation standard used appropriate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6. Is the literature quality evaluation independently completed by two or more evaluators	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7. Are certain measures taken to reduce errors when extracting data	Yes	Unclear	Yes	No	No	No	No	No
8. Is the method of merging research appropriate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9. Has the possibility of publication bias been evaluated	Yes	Yes	Yes	Yes	Unclear	No	No	No
10. Are the policy or practice recommendations based on the results of the system evaluation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11. Is the proposed further research direction appropriate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Table 4 Methodological Quality Evaluation of the Guidelines

Study	Standardized Scores in Various Domains (%)						≥60%	Quality Evaluation
	Scope and Purpose	Stakeholder Involvement	Rigor of Development	Clarity of Presentation	Applicability	Editorial Independence		
NCCN.[21]	82.11	88.24	87.52	83.66	79.62	87.83	6	A
NICE.[22]	88.93	84.75	86.29	82.51	89.74	90.23	6	A
CACA.[23]	90.34	80.73	78.37	80.48	85.44	90.42	6	A
CACA.[24]	80.23	79.22	84.59	80.34	86.71	89.19	6	A

Table 5 Literature Quality Evaluation Form

Literature Type	Title	Evaluation Tools	Literature Level	Whether to Include
Expert consensus	Expert Consensus on Discharge Preparation Services for Older Patients (2019 Edition).	JBI Quality Evaluation Tool	High quality	Inclusion
Expert consensus	Significance of the comprehensive geriatric assessment in the administration of chemotherapy to older adults with cancer: Recommendations by the Japanese Geriatric Oncology Guideline Committee.	JBI Quality Evaluation Tool	High quality	Inclusion
Systematic Review.	Interventions to Promote Early Discharge and Avoid Inappropriate Hospital (Re)Admission: A Systematic Review.	AMSTAR-2	High quality	Inclusion
Systematic Review.	Discharge planning from hospital (Review).	AMSTAR-2	High quality	Inclusion
Systematic Review.	Early supported discharge for older adults admitted to hospital with medical complaints: a protocol for a systematic review.	AMSTAR-2	Medium quality	Inclusion
Systematic Review.	Effectiveness of nursing discharge planning interventions on health-related outcomes in discharged elderly inpatients: a systematic review.	AMSTAR-2	Medium quality	Inclusion
Meta-analysis	Meta-analysis of the effectiveness of nursing discharge planning interventions for older inpatients discharged home.	AMSTAR-2	High quality	Inclusion
Systematic Review.	A systematic review of the intervention effect of hospital discharge preparation service on elderly patients with chronic diseases.	AMSTAR-2	Medium quality	Inclusion
Meta-analysis	Meta-analysis of the effect of a mind-mapping health education intervention on patients' readiness for hospital discharge.	AMSTAR-2	Medium quality	Inclusion
Systematic Review.	The benefits of transitional care in older patients with chronic diseases: a systematic review and meta-analysis.	AMSTAR-2	Medium quality	Inclusion
Guideline	NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) Older Adult Oncology	AGREE-II	High quality	Inclusion
Guideline	Transition between inpatient mental health settings and community or care home settings.	AGREE-II	High quality	Inclusion
Guideline	Chinese Guidelines for Integrated Cancer Care (CACA) Geriatric Protection.	AGREE-II	High quality	Inclusion
Guideline	Chinese Guidelines for Integrated Cancer Diagnosis and Treatment Techniques (CACA) Integrated Care.	AGREE-II	High quality	Inclusion

Summary of Evidence

A total number of 29 pieces evidence was extracted, summarized and condensed into four themes: evaluation, planning, implementation, and evaluation, as shown in Table 6.

Table 6 The Best Evidence Content and Rating for Discharge Preparation of Elderly Chemotherapy Patients

Subject of Evidence	Content of the Evidence	Evidence Level
Evaluate	1. To implement the Discharge Preparation Service, it is necessary to form a team comprising coordinators, doctors, nurses, nurse managers, rehabilitation therapists, dieticians, pharmacists, and social workers.[1] Additional professionals may be added based on the specific needs of the patient.[11]	5b
	2. Nurses are encouraged to conduct patient screenings within 24 hours of admission. They should also organize case conferences to assess patients' post-discharge medical care needs, establish discharge dates, provide guidance on post-discharge care to patients and their families, and conduct a reassessment within 72 hours.[1] In the Discharge Preparation Service, assessment is a dynamic process that needs to be reassessed when a patient's condition changes, when they are transferred to another unit, and when the patient and their family have new needs.[11]	5b
	3. Timely assessment by nurses of the physical and psychological needs of elderly chronic disease patients admitted to hospitals can identify and prevent problems that may arise in patients.[20,21] The admission assessment involves evaluating the patient's expected survival, underlying disease, physical and cognitive function, psychological and social factors, general nutritional status, tumor aggressiveness, and treatments.[21]	1a
	4. Before starting chemotherapy, patients should undergo a comprehensive assessment and a comprehensive assessment of the elderly.[12,21,23,24] The overall evaluation includes patient assessment (physical condition, psychosocial, health behavior), environmental assessment, treatment-related assessment (medication dosage, patient's body surface area and degree of adaptation to the condition, history of allergies, chemotherapy toxicity, and risk of thrombosis), and selection of venous access.[24]	5b
	5. Before chemotherapy, it is advisable to conduct a pre-chemotherapy evaluation using either a Geriatric Assessment (GA) or a Geriatric Comprehensive Assessment (CGA).[12,21,23] It is recommended to prioritize the use of the G8 questionnaire for initial screening before proceeding with a comprehensive assessment of the elderly. Elderly patients aged 60 and above are advised to undergo this screening. Those with a comprehensive score of 14 or less on the G8 questionnaire are recommended to undergo a complete comprehensive elderly assessment. This comprehensive assessment should encompass physical function assessment, fall risk assessment, comorbidity and multi-drug assessment, nutrition and symptom assessment, depression assessment, cognitive function assessment, and appropriate treatment measures based on the evaluation results.[23]	1a
	6. Before starting chemotherapy, elderly cancer patients need to assess the general risk of chemotherapy toxicity for solid tumors, as well as consider treatment goals, risks, and potential adverse reactions. Dosage adjustments should be made based on toxicity reactions while maintaining the drug's effectiveness.[21] Following the evaluation of risks and potential adverse reactions, appropriate adjustments should be made to the treatment plan, such as reducing surgical risks or chemotherapy doses and addressing any health issues specific to the elderly. This approach aims to ensure treatment benefits, minimize treatment-related harm, and reduce additional medical expenses.[23]	1a
	7. It's essential to regularly assess the risk of falls for elderly cancer patients, which includes evaluating their history of falls, balance, and gait disorders. For high-risk patients, conducting a safety assessment of their home environment and implementing durable fall-prevention equipment early is recommended.[21]	5b
	8. The discharge assessment comprises evaluating the patient's medical and care needs, conducting a home assessment (including the environment, caregiving capacity, and financial support),[1,21] assessing community resources, and evaluating the patient's competency status at home in terms of self-care, mobility, and environmental hazards.[14,18,22]	1b

Plan	9. The key steps for implementing the discharge plan include providing health education on medication and treatment, developing self-care management skills, managing symptoms, ensuring effective communication and providing information about the discharge plan, and facilitating interdisciplinary communication.[16,18,19,22]	Ia
	10. The purpose of the discharge plan is to improve the efficiency and quality of medical services by reducing delayed discharge, promoting the transition of patients from the hospital to the post discharge environment, and providing patients with information on their health issue management.[13,14]	Ia
	11. It is essential to carry out inpatient assessments and multidisciplinary evaluations for patients and their families based on individual patient needs.[14,18] It is critical to integrate the viewpoints of multidisciplinary team members and actively involve patients and their families in collaboratively developing personalized post-discharge care plans for patients.[16,22]	5b
	12. It is recommended to establish a frequency for reviewing discharge plans, with a daily review and timely updates as needed.[13–15]	Ia
	13. The discharge plan should include evaluating the patient's ongoing health needs, providing health education, offering consultation services, referring patients for medication adjustments, and developing follow-up plans.[1,11,12]	Ia
	14. Appropriate discharge planning at the time of admission helps to organize and timely discharge of patients as well as organize post-discharge services.[13,14]	Ia
	15. The development of individualized discharge plans for older people at risk can reduce readmission rates, improve patient satisfaction with hospitalization, and identify and dare to address medication problems in the course of discharge planning interventions.[14–16]	5b
Implement	16. The implementation of the discharge plan is related to factors such as health policies and medical resource allocation and should be implemented as early as possible after the patient's admission.[16,19]	Ia
	17. It is recommended to provide education, training, and evaluation of the knowledge and skills related to discharge preparation services to multidisciplinary team members before implementing discharge preparation services.[13]	Ia
	18. Discharge planning should be implemented in line with assessment findings, which identify patient needs/resources, the ability to further self-manage, and involve the patient in management decisions and in choosing the most appropriate time for discharge.[14,17,21]	Ia
	19. It is recommended to appoint one "coordinator" to be responsible for coordinating, communicating, and tracking various stages of discharge preparation services to ensure the continuity of nursing and management of patient needs after discharge.[16,19]	5b
	20. Nurses should educate patients and primary caregivers about relevant health conditions, medications, and post-discharge arrangements.[14] Health education for chemotherapy patients should include guidance on the home environment, daily living and activities, dietary guidance, adherence education, and encouragement for early return to society.[24]	Ia
	21. Inpatient management involves encouraging patients to engage in appropriate activities and exercise during the intervals between chemotherapy sessions, fostering a positive mindset, cultivating healthy habits, maintaining a balance between work and rest, creating a favorable eating environment, advising patients to consume small, light, easily digestible, and nutrient-rich meals, promoting communication with family, colleagues, and friends to uplift spirits, engaging in activities such as calligraphy, painting, or other interests, and recommending participation in anticancer groups to bolster confidence in recovery.[23,24]	Ia
	22. The use of a verification form 24–48 hours before patient discharge,[13] a discharge preparation component that includes both in-hospital and out-of-hospital phases,[1] and ongoing interventions after patient discharge require continued information support for patients.[16]	Ia
	23. Information support mainly refers to providing patients with chemotherapy-related knowledge information in multiple ways, establishing correct cognition, mobilizing their subjective initiative, and making them actively participate in treatment and rehabilitation. Patients with poor memory can be reminded with the help of follow-up diaries, reminder cards, text messages, alarm clocks, and other ways; elderly or children can invite their families to participate in the management of medication and rehabilitation during the period of homestay, to improve the treatment adherence.[23,24]	5b
	24. If the nurse determines that the patient is about to be transferred, implement the discharge plan immediately.[15]	Ia
	25. If the patient is discharged from the hospital and returns home for recuperation, arrangements for the selection of a primary carer for the patient when he/she returns home, caregiving skills of the primary carer, preparation of medical aids, and referral to relevant community resources (home care, daycare, etc) should be confirmed.[1]	5b
	26. The patient's home environment should be comfortable, warm, quiet, safe, and clean, with appropriate temperature and humidity, and windows should be opened at least twice a day to avoid convective wind. Nurses should inform patients before discharge to reduce unnecessary visits and avoid going to crowded places.[24]	5b

(*Continued*)

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Table 6 (Continued).

Subject of Evidence	Content of the Evidence	Evidence Level
Appraise	27. After the patient is discharged, it is necessary to track the patient's condition by phone and evaluate the effectiveness of discharge preparation services.Interventions after discharge can continue in the patient's home environment, through a combination of home visits or phone contact.[1]	1a
	28. Chemotherapy follow-up can timely understand the patient's psychological emotions, physical condition, and adverse drug reactions, provide targeted professional guidance, complete the entire cycle of chemotherapy, and improve quality of life and treatment effectiveness.[24] It is recommended to provide the first follow-up service within 3–7 days after discharge and the second follow-up service at 2 weeks or 1 month after discharge.[1]	5b
	29. The follow-up evaluation should include: whether the patient is satisfied with the care received, whether the patient has other unmet care needs, whether the patient is re-admitted to the hospital and the reason for admission,[18,20] chemotherapy follow-up also includes drug taking, blood test indicators, adverse reactions, diet, etc., and the follow-up method can be by text message, telephone, and the Internet, etc.[24]	5b

Discussion

Assessment for Discharge Preparation

The discharge of elderly chemotherapy patients from hospital is often associated with the implementation of complex healthcare plans, presenting a challenging period for both the patients and their carers.[25] The accurate and systematic assessment of patients' readiness for discharge plays a crucial role in preventing premature discharges and facilitating the transition from hospital care to home care or community rehabilitation. This approach has been shown to reduce the incidence of adverse post-discharge outcomes. The evidence presented in references highlights the importance of assessment and specifies the timing, content, and methods of assessment.[1,11–13,16,19,22–24] The evidence further suggests that discharge readiness in elderly chemotherapy patients is an ongoing and dynamic process. In addition to the initial screening and assessment of patients within 24 hours of admission, team members must reassess patients when their condition changes, when they are transferred to a new department, or when patients or families have new needs.

The most pertinent predictive instrument for the discharge preparation in elderly chemotherapy patients is the Comprehensive Geriatric Assessment (CGA), which is regarded by the International Society for Geriatric Oncology as a pivotal screening tool for elderly patients.[26] The most widely used assessment tool is the Blaylock Risk Assessment and Scoring Scale (BRASS), which is employed primarily to quantify significant factors influencing patient care requirements.[27] The scale can guide the modification of discharge preparation plans in accordance with the scores obtained. However, the extensive scope of this scale presents a challenge in terms of understanding the individualized needs of elderly chemotherapy patients. To comprehend the personalized requirements of elderly chemotherapists in accordance with the scale's content, it can be employed in accordance with the recommendations of Panlan et al and Yang et al, who proposed the utilization of the Blaylock Risk Assessment and Screening Score as a tool for evaluating patients' care needs.[28,29] Consequently, the Patient Discharge Needs Scale, revised by Yang et al, in conjunction with the recommendations of Pan Lan et al, can be employed to provide discharge preparation services for elderly chemotherapy patients. This approach allows for the dynamic adjustment of services during the implementation process, ensuring that both the individual needs of patients and their families are understood at the assessment stage and that sufficient preparations are made for the development and implementation of discharge preparation plans for elderly patients. These assessments should cover physical function, fall risk, comorbidities, polypharmacy, nutrition, symptoms, depression, and cognitive function. Additionally, evaluations of medical and care needs, home environment, caregiving capacity, economic support, and patient abilities at home (self-care, mobility, and environmental hazards) are essential before discharge. A comprehensive geriatric assessment conducted prior to treatment is recommended for elderly patients in order to reduce the risk of adverse effects during treatment.[30,31]

Planning and Implementation of Discharge Preparation

A number of sources have highlighted the necessity of a multidisciplinary team and a professional coordinator to oversee the discharge preparation process.[1,11,12,14,16,18,19] The discharge preparation service for elderly chemotherapy patients is a continuous process comprising four steps: assessment, planning, implementation, and evaluation. In addition, it encompasses two phases: in-hospital service and out-of-hospital service. As each of these tasks is onerous and encompasses all aspects of the patient's and family's needs, it necessitates the input of a multidisciplinary team comprising professionals such as doctors, nurses, nurse managers, rehabilitators, dietitians, pharmacists, social workers, and other specialists.

Discharge preparation services involve a variety of professionals, with different indicators and standards being used by each according to their area of expertise. Rehabilitation personnel, for instance, focus on the patient's functional rehabilitation ability,[32] while dietitians concentrate on the patient's nutritional risk, and nursing staff are primarily concerned with the the patient's ability to care for themselves after discharge. This is a crucial aspect that must be considered.[5] However, the process of receiving discharge preparation services often results in a lack of coherent guidance and information, which can be challenging for patients and their families to navigate. This highlights the importance of appointing a professional coordinator to facilitate the transition and ensure a smooth integration into the community. The charge nurse, being the professional who has has the most contact with the patient during their hospitalization, is in a position to gain a deeper insight into the changes in the patient's condition and psychological characteristics. This enables the charge nurse to play a

pivotal role in the discharge preparation service, acting as a coordinator to ensure the integration of information provided by different professionals and enhance the effectiveness of the discharge preparation service.[33]

Evaluation of Discharge Preparation

The assessment of discharge preparation services for elderly chemotherapy patients is primarily relies on the perspectives of patients, caregivers, and healthcare institutions at all levels, utilizing research methods such as questionnaires, interviews, observations, and measurements.[34] The Group Standard for Follow-up Services for Discharged Patients presents a standardized follow-up process and procedure, including the content, assessment, and guidance for follow-up visits, with the objective of ensuring the quality of patients' home care or community rehabilitation after discharge.[35] The timing of evaluation varies across healthcare institutions. Expert consensus recommends the initial evaluation occur between 3 and 7 days after discharge, followed by a second evaluation conducted between 2 and 4 weeks after discharge.[1] Subsequent adjustments may be made according to the needs of the patient and carer, hospital manpower allocation, home environment, and community readiness.

In order to evaluate the quality of discharge instruction for patients by medical workers, Wang Binghua et al[36] conducted a localized revision and a reliability and validity test of the Quality of Discharge Teaching Scale (QDTS) compiled by Weiss et al in 2007 in 2016.[37] This specifically included the subjective perception of patients. Shepperd et al showed that implementing a systematic and comprehensive discharge plan, combined with continuous community care and home management, can reduce hospital stays, improve patient satisfaction, and optimize health outcomes. This approach promotes a safer, smoother transition to home and community care. (Shepperd et al demonstrated that the implementation of a systematic and comprehensive discharge plan for patients, coupled with the assurance of uninterrupted community care and home management, can reduce the length of hospitalization, enhance patient satisfaction and optimize disease outcomes).[38] This, in turn, facilitates a safer and more seamless transition to home and the community.[39]

The evidence includes 29 pieces of key information for the care of older patients with tumors (oncology patients) requiring chemotherapy. It encompasses the assessment and screening that should be conducted upon admission, the management and information support of patients during their hospitalization, as well as the post-charge considerations and follow-up. A cross-sectional survey conducted in Spain revealed that 86% of colorectal cancer survivors had at least one unmet care need during clinical treatment.[40] Similarly, a survey of colorectal cancer survivors in Singapore demonstrated that approximately 52% of patients had at least one unmet care need during treatment in the hospital.[41] These findings indicate gaps in the current care processes. This study aims to equip clinical nurses with the necessary information to better address the nursing needs of elderly oncology patients.

Limitations

This study included 15 documents, which may limit the comprehensiveness of the evidence. The limited variety of document types might affect the applicability of the summarized evidence.

Conclusion

This study obtained high-quality, scientific, rigorous, and reliable evidence through strict evidence screening processes and the use of scientific literature quality evaluation tools. The 29 pieces of evidence were synthesized, summarizing that discharge preparation services for elderly chemotherapy patients should involve four steps: assessment, planning, implementation, and evaluation.

For elderly chemotherapy patients, pre-chemotherapy assessment is crucial. It involves not only evaluating the discharge risks and general conditions of the elderly patients—encompassing physiological, psychological, familial, and communal resources—but also conducting a comprehensive geriatric evaluation and calculating the risk of chemotherapy toxicity. During the planning phase, a discharge plan must be crafted based on the multidisciplinary team's insights and assessments, while also considering the patients' preferences. The discharge plan should cover health education, medication management, referrals, and follow-up appointments. The success of discharge preparation services hinges on a dedicated "coordinator" overseeing the discharge process. Additionally, daily monitoring of discharge service execution is crucial to ensure the integrity of the entire process. Lastly, after discharge, it is essential to continually offer

informational support and perform telephone follow-ups, providing patients with tools and platforms to evaluate the services they received. The evidence summary provides a reliable basis for implementing evidence-based discharge preparation services for elderly chemotherapy patients, laying a foundation for future clinical practice applications.

Abbreviations

PIPOST, Population, intervention, professional, outcome, setting, type of evidence; GIN, Global Initiative for Nursing; NCCN, National Comprehensive Cancer Network; NICE, National Institute for Health and Care Excellence; CACA, China Anti-cancer Association; ASCO, American Society Of Clinical Oncology; RANO, the Registered Nurses' Association of Ontario; SIGN, the Scottish Intercollegiate Guidelines Network.

Data Sharing Statement

The datasets used and analysed during the current study available from the corresponding author on reasonable request.

Ethics Approval and Consent to Participate

This study was conducted in accordance with the declaration of Helsinki. This study was conducted with approval from the Ethics Committee of the First Affiliated Hospital of Kunming Medical University(2023L159).

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