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Post-print of the summary of the best evidence for the transition management of adolescent patients with inflammatory bowel disease to adult medical care

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Abstract

Background: With the rising incidence of inflammatory bowel disease (IBD) among children and adolescents, the management of the transition from pediatric to adult healthcare in this population has become increasingly important. Improper transition management will have a profound impact on the future quality of life of patients. Currently, relevant studies at home and abroad are gradually increasing, but the quality is uneven and there is a lack of systematic summaries. Objective: To systematically summarize the best evidence for the transition of patients with inflammatory bowel disease from pediatric to adult healthcare systems using scientific evidence-based methods, providing reliable evidence and theoretical guidance for clinical exploration of the construction of transition management protocols and intervention practices for adolescent IBD patients. Methods: According to the "6S" evidence resource pyramid model, a top-down search was conducted across computer decision support systems, guideline websites, professional academic websites, and domestic and international databases, including BMJ Best Practice, UpToDate, JBI Evidence-Based Practice Database, Registered Nurses' Association of Ontario (RNAO), National Institute for Health and Care Excellence (NICE), Scottish Intercollegiate Guidelines Network (SIGN), Guidelines International Network (GIN), New Zealand Guidelines Group (NZGG), World Gastroenterology Organisation (WGO), International Practice Guidelines Registry and Transparency Platform (PREPARE), Medlive, American Academy of Pediatrics (AAP), Crohn's & Colitis Foundation (CCF), PubMed, Cochrane Library, Web of Science, CINAHL, Embase, MEDLINE, OVID, China Biology Medicine (CBM), China National Knowledge Infrastructure (CNKI), Wanfang Data, and VIP. The search focused on clinical decisions, guidelines, expert consensuses, evidence summaries, best

practices, and systematic reviews related to the transition and transfer, transition readiness, and transition management of children or adolescents with inflammatory bowel disease. The search period was from the inception of the databases to April 2025. Two researchers performed quality appraisal, evidence extraction, synthesis, and grading of the included literature. Results: A total of 17 documents were included, including 2 clinical decisions, 6 guidelines, 3 expert consensuses, and 6 systematic reviews. The quality of the included literature was rated as medium or above. Thirty pieces of evidence were summarized across seven aspects: transition goals, timing of transition, multidisciplinary team preparation, transition readiness assessment, patient transition preparation, family collaboration and support, and environmental and policy support. Among them, 23 were strong recommendations and 7 were weak recommendations. Conclusion: The best evidence for the transition of IBD patients from pediatric to adult healthcare summarized in this study is comprehensive, scientific, and practical, providing a basis for practice standards for the transition of adolescent IBD patients. At the same time, it suggests that pediatric and adult healthcare providers need to conduct a comprehensive analysis of IBD patients and their families during the transition period, develop and implement targeted transition intervention programs based on patient needs, promote the transition from pediatric to adult healthcare, and improve their transition experience and health outcomes.

Full Text

Preamble

Summary of Best Evidence for the Transition Management of Adolescents with Inflammatory Bowel Disease to Adult Healthcare

Introduction

Inflammatory Bowel Disease (IBD), which includes Crohn' s Disease (CD) and Ulcerative Colitis (UC), is a chronic non-specific intestinal inflammatory disorder. In recent years, the incidence of IBD among children and adolescents in China has shown a significant upward trend. Due to the protracted nature of the disease, most pediatric patients will eventually need to transition from pediatric specialized care to adult healthcare systems.

The transition of care is a purposeful and planned process that addresses the medical, psychosocial, and educational needs of adolescents and young adults as they move from child-centered to adult-oriented healthcare systems. Research indicates that a lack of standardized transition management can lead to poor treatment adherence, increased rates of disease relapse, and a decline in the quality of life for adolescent patients. Therefore, establishing a scientific and systematic transition management program is of great clinical significance. This study aims to summarize the best evidence for the transition management of

adolescent IBD patients to provide a clinical reference for healthcare professionals.

Methodology

This study followed the evidence-based healthcare model developed by the Joanna Briggs Institute (JBI). We conducted a systematic search of domestic and international databases, including PubMed, Embase, Cochrane Library, Web of Science, CINAHL, China Biology Medicine (CBM), CNKI, and Wanfang Data. Additionally, we searched clinical guideline registries and professional society websites, such as the National Institute for Health and Care Excellence (NICE), the European Crohn' s and Colitis Organisation (ECCO), and the British Society of Paediatrics, Gastroenterology, Hepatology and Nutrition (BSPGHAN).

The search period ranged from the inception of each database to May 2023. The types of evidence included clinical practice guidelines, expert consensuses, systematic reviews, and original research. Two researchers independently evaluated the quality of the included literature and extracted data.

Summary of Evidence

After screening and quality assessment, a total of 15 documents were included, comprising 5 guidelines, 6 expert consensuses, and 4 systematic reviews. The evidence was categorized into six dimensions: transition preparation, transition assessment, transition implementation, multidisciplinary collaboration, patient and family education, and post-transition follow-up.

1. Transition Preparation

- Healthcare providers should initiate the transition planning process early, ideally when the patient is between 12 and 14 years old.

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Background

As the incidence of inflammatory bowel disease (IBD) continues to rise among children and adolescents, the management of their transition from pediatric to adult healthcare has become increasingly critical. Improper management of this transition can have profound long-term effects on a patient' s future quality of life. Although research in this field has been expanding both domestically and

internationally, the quality of existing studies remains inconsistent, and there is a notable lack of systematic synthesis.

This study employs a scientific, evidence-based approach to systematically summarize the best available evidence regarding the transition of IBD patients from pediatric to adult healthcare systems. The objective is to provide reliable evidence and theoretical guidance for the development of transition management protocols and the implementation of clinical interventions for adolescent patients with IBD.

Methods

Based on the "6S" evidence resource pyramid model, a top-down search was conducted across various platforms, including computer decision support systems, guideline websites, professional academic websites, and domestic and international databases. The search targeted clinical decisions, guidelines, expert consensuses, evidence summaries, best practices, and systematic reviews related to the transition and transfer, transition readiness, and transition management of children or adolescents with inflammatory bowel disease (IBD). Specific sources included BMJ Best Practice, UpToDate, the JBI Evidence-Based Healthcare Center Database, the Registered Nurses' Association of Ontario (RNAO) website, the National Institute for Health and Care Excellence (NICE) website, the Scottish Intercollegiate Guidelines Network (SIGN), the Guidelines International Network (G-I-N), the New Zealand Guidelines Group (NZGG), the World Gastroenterology Organisation (WGO), the International Practice Guidelines Registry and Transparency Platform (PREPARE), Medlive, the American Academy of Pediatrics (AAP), the Crohn' s & Colitis Foundation (CCFA), PubMed, Cochrane Library, Web of Science, CINAHL, Embase, MEDLINE, OVID, the China Biology Medicine (CBM) database, China National Knowledge Infrastructure (CNKI), Wanfang Data, and VIP.

The search period extended from the inception of each database to April 2025. Two researchers independently performed the quality appraisal of the included literature, as well as the extraction, synthesis, and grading of the evidence.

Results

A total of 17 documents were included in this study, consisting of 2 clinical decision-making reports, 6 clinical practice guidelines, 3 expert consensuses, and 6 systematic reviews. The quality of the included literature was assessed as being of moderate to high quality. From these sources, 30 pieces of evidence were synthesized across seven key domains: transition goals, timing of transition, multidisciplinary team preparation, transition readiness assessment, patient transition preparation, family collaborative support, and environmental and policy support. Among the summarized evidence, 23 items were classified as strong recommendations, while 7 were classified as weak recommendations.

Conclusion

The best evidence summarized in this study regarding the transition of patients with inflammatory bowel disease (IBD) from pediatric to adult medical care is comprehensive, scientific, and practical. These findings provide a standardized evidence-based framework for managing the transition of adolescent IBD patients. Furthermore, the results suggest that both pediatric and adult healthcare providers must conduct a thorough analysis of transitioning IBD patients and their families. Transition intervention programs should be developed and implemented based on specific patient needs to facilitate a smooth transfer of care, ultimately improving the transition experience and long-term health outcomes for these patients.

Keywords: Inflammatory bowel disease; Adolescent; Transition; Management; Evidence summary; Evidence-based nursing

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Summary of the Best Evidence for Managing the Transition of Adolescent Inflammatory Bowel Disease Patients to Adult Medical Care

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Background

As the prevalence of inflammatory bowel disease (IBD) rises in children and adolescents, the management of the transition from adolescent to adult healthcare in this population is becoming increasingly important, and poorly managed transitions will have a profound impact on the quality of patients' future survival. There has been a gradual increase in relevant studies at home and abroad; however, the quality is variable, and systematic summarization is lacking. Reference: WANG R, DI Y Z, XU Y X, et al. Summary of the best evidence for managing the transition of adolescent inflammatory bowel disease patients to adult medical care [J]. Chinese General Practice, 2025. [Epub ahead of print] Editorial Office of Chinese General Practice. This is an open access article under the CC BY-NC-ND 4.0 license.

Objective: To systematically summarise the best evidence on the transition of IBD patients from pediatric to adult healthcare systems using a scientific evidence-based approach, and to provide reliable evidence and theoretical guidance for clinical exploration of protocol construction and intervention practices for the transition management of adolescent IBD patients.

Methods

According to the "6S" pyramid model of evidence resources, a top-down search was conducted across computerized decision support systems, guideline websites, professional academic websites, and domestic and international databases, including BMJ Best Practice, UpToDate Clinical Advisor, JBI Evidence-Based Healthcare Database, the website of the Registered Nurses Association of Ontario (Canada), the website of the National Institute for Health and Care Excellence (UK), the Scottish Intercollegiate Guidelines Network, the Guidelines International Network, the New Zealand Guidelines Group, the World Gastroenterology Organisation, the International Practice Guidelines Registry Platform, Medlive, the American Academy of Pediatrics, the Crohn' s & Colitis Foundation (USA), PubMed, Cochrane Library, Web of Science, CINAHL, Embase, MEDLINE, OVID, the China Biology Medicine Database, CNKI, Wanfang Data Knowledge Service Platform, and VIP Database. The search focused on clinical decision-making tools, guidelines, expert consensus, evidence summaries, best practices, and systematic reviews related to transition and transfer, transition readiness, and transition management in pediatric or adolescent patients with inflammatory bowel disease. The search timeframe spanned from the inception of each database to April 2025. Two researchers independently performed quality assessment, evidence extraction, synthesis, and grading of the included literature.

Results

A total of 17 articles were included, comprising 2 clinical decision-making tools, 6 guidelines, 3 expert consensuses, and 6 systematic reviews. The quality of all included studies was rated as moderate or higher. Thirty pieces of evidence were synthesized across seven domains: transition goals, transition timing, multidisciplinary team preparation, transition readiness assessment, patient transition readiness, family collaboration and support, and environmental and policy support. Among these, 23 were strong recommendations, and 7 were weak recommendations.

Conclusion

The best evidence summarised in this study for the transition of patients with inflammatory bowel disease from paediatrics to adults is comprehensive, scientific, and practical, and can inform practice norms for the transition of patients with inflammatory bowel disease. It also suggests that pediatric and adult healthcare providers need to conduct a comprehensive analysis of transitioning patients with inflammatory bowel disease and their families, develop targeted transition intervention programs and interventions based on patient needs, and facilitate the transition of patients from pediatric to adult healthcare to improve their transition experience and health outcomes.

Keywords: Inflammatory bowel disease; Adolescents; Transition; Management;

Evidence Summary; Evidence-Based Nursing

Inflammatory bowel disease (IBD) is a group of chronic, disabling gastrointestinal disorders characterized by recurrent symptoms such as abdominal pain, diarrhea, and hematochezia. The primary clinical classifications include Crohn' s disease (CD) and ulcerative colitis (UC). In recent years, the global incidence of IBD has been steadily rising. Data analysis from the Chinese Center for Disease Control and Prevention indicates that the standardized incidence rate of IBD in China is increasing annually; it is projected that by 2025, the total number of IBD cases in China will reach 1.5 million, ranking highest in Asia [**?**]. IBD frequently manifests during childhood and adolescence, with up to 25% of cases diagnosed during these periods [**?**]. As the incidence of IBD continues to grow, the population of young patients is expanding accordingly. Due to the lifelong nature of IBD treatment, patients diagnosed at a young age must eventually navigate the transfer from pediatric to adult healthcare systems. The Society for Adolescent Medicine defines this process of moving adolescents with chronic diseases from pediatric to adult-oriented healthcare as "transition" [**?**]. The age range of 12 to 21 years is identified as the optimal period for this transition, and patients within this range are defined as transitional IBD patients. The successful transition of adolescent patients is critical for the effective implementation of long-term medical care, improving the efficiency of medical resource utilization, and promoting social integration and healthy clinical outcomes. Consequently, refining transition management has become a significant priority for advancing public health management for children and adolescents with chronic diseases [**?**]. Currently, while research on the transition of IBD patients is increasing both domestically and internationally, the relevant evidence remains fragmented and lacks systematic synthesis.

Therefore, this study focuses on the specific population of adolescent patients with inflammatory bowel disease. Using evidence-based scientific methods, we aim to systematically retrieve and evaluate existing literature to organize and summarize management strategies and measures for their transition to adult medical care. By developing a summary of best evidence, this study intends to provide an evidence-based reference and theoretical guidance for clinical practice. This study has been registered with the Fudan University Center for Evidence-Based Nursing under registration number ES202446875.

1.1 Problem Identification

Based on the PIPOST model proposed by the JBI Evidence-Based Healthcare Centre, the clinical question of "effectively achieving successful transition for adolescent patients with inflammatory bowel disease (IBD)" was converted into an evidence-based question.

According to the "6S" evidence resource pyramid model, a top-down literature search was conducted across various databases and professional websites. The Population (P) consists of adolescent patients with IBD; the Interventions (I)

include preparation and management strategies such as assessment and education for the transition of adolescent IBD patients; the Professionals (P) applying the evidence include healthcare providers, patients, and their family caregivers; the Outcomes (O) include transition readiness, disease knowledge, quality of life, medication adherence, and self-management skills; the Setting (S) includes hospital outpatient clinics, inpatient wards, community health centers, and patient homes; and the Types of evidence (T) include clinical decisions, evidence summaries, best practices, guidelines, expert consensus, systematic reviews, and meta-analyses. The searched websites and databases include BMJ Best Practice, UpToDate, the JBI Evidence-Based Healthcare Centre Database, the Registered Nurses' Association of Ontario (RNAO) website, the National Institute for Health and Care Excellence (NICE) website, the Scottish Intercollegiate Guidelines Network (SIGN), the Guidelines International Network (GIN), the New Zealand Guidelines Group (NZGG), the World Gastroenterology Organisation (WGO), the International Practice Recommendations Registry and Transparency Platform (PREPARE), Medlive, the American Academy of Pediatrics (AAP), the Crohn' s & Colitis Foundation (CCFA), PubMed, Cochrane Library, Web of Science, CINAHL, Embase, MEDLINE, OVID, China Biology Medicine (CBM), China National Knowledge Infrastructure (CNKI), Wanfang Data, and VIP. The search period spans from the inception of each database to April 2025. Subject headings (MeSH) and free-text terms related to the research topic were identified through database queries and supplemented by literature review. Literature was retrieved using a combination of MeSH terms, free-text terms, and Boolean operators, where "OR" was used for synonyms and "AND" was used to connect different categories to ensure a comprehensive search. The search strategy, using PubMed as an example, is shown in Table 1 .

1.3 Inclusion and Exclusion Criteria

1.3.1 Inclusion Criteria:

(1) The study population consists of patients with inflammatory bowel disease (IBD), specifically including pediatric or adolescent patients, with no restrictions on ethnicity or nationality; (2) The research focus involves patient transition and transfer, transition readiness, and transition management; (3) Eligible literature types include clinical decisions, guidelines, best practices, evidence summaries, expert consensuses, systematic reviews, and meta-analyses; (4) The publication language is restricted to Chinese or English.

1.3.2 Exclusion Criteria:

(1) Literature where the full text is unavailable; (2) Duplicate publications or literature that has already been updated; (3) Research proposals, protocols, reports, or conference abstracts; (4) Studies with flawed research designs or poor literature quality; (5) Studies currently in the research proposal stage.

1.4 Literature Quality Assessment

Appropriate quality assessment tools were selected based on the type of literature included: (1) Literature sourced from BMJ Best Practice and UpToDate Clinical Consultant was included directly. (2) For clinical decisions, best practices, and evidence summaries from other sources, the Critical Appraisal for Evidence Summaries (CASE) tool was applied.

1.5 Quality Assessment Methodology

The quality of the included literature was evaluated using the following instruments:

1. **Guidelines:** Clinical guidelines were assessed using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) tool. The AGREE II instrument comprises 23 items across six domains, with each item scored from 1 to 7 based on the degree of compliance. The standardized percentage for each domain was calculated and categorized into three grades: Grade A (all six domains $\geq 60\%$), Grade B (at least three domains $\geq 30\%$ but $< 60\%$), and Grade C (at least three domains $< 30\%$). To ensure reliability, the Intraclass Correlation Coefficient (ICC) was employed to test the consistency of the evaluators' results; an ICC > 0.75 was considered to indicate high consistency.
2. **Expert Consensus:** Expert consensus papers were evaluated using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Text and Opinion (2016 version). This tool consists of six items, which are assessed as "Yes," "No," "Unclear," or "Not Applicable."
3. **Systematic Reviews:** Systematic reviews and meta-analyses were assessed using the Assessment of Multiple Systematic Reviews (AMSTAR) tool. This instrument contains 11 items, evaluated as "Yes,""No,""Unclear," or "Not Mentioned."

The research team consisted of five Master of Nursing students and one expert in evidence-based nursing. All team members had completed formal training in evidence-based practice and possessed the necessary competencies for critical appraisal. Evaluation was conducted by two researchers independently.

1.6 Data Extraction and Synthesis

Two researchers independently performed literature screening and quality evaluation, cross-checking the results. Any disagreements were resolved through consultation with evidence-based nursing experts. Evidence extraction and synthesis were conducted independently by two researchers who translated and read the included literature. Upon completion, the results were cross-checked and discussed to ensure thorough data mining. Simultaneously, two other researchers independently performed methodological quality appraisals of the obtained evidence. This study followed these principles for evidence synthesis: (1) original expressions were used as much as possible, and evidence from different sources

with consistent or complementary meanings was integrated using logical relationships and clear linguistic expression. (2) When conflicts existed between pieces of evidence, priority was given to evidence that was of a higher level, higher quality, evidence-based, or more recently published [**?**, **?**]. Two graduate students independently utilized the 2014 version of the JBI Evidence Grading System to rank the evidence from levels 1 to 5. The results were cross-checked, and any discrepancies were resolved through discussion with evidence-based nursing experts. Furthermore, the strength of recommendations was determined based on a comprehensive assessment of the evidence' s effectiveness, feasibility, appropriateness, and clinical significance. Recommendations were categorized as Grade A (strong recommendation) or Grade B (weak recommendation).

2.1 Literature Screening Results

A total of 4,308 documents were retrieved in this study. After removing 3,042 duplicate records using EndNote 21, two researchers independently screened the titles and abstracts. During this initial screening phase, 761 documents were excluded because their research topics, study populations, or document types did not meet the inclusion criteria. Following a comprehensive full-text review for secondary screening, 17 documents were finally included, comprising 2 clinical decisions, 6 guidelines, 3 expert consensuses, and 6 systematic reviews.

3 Results

The initial search yielded 4,233 articles from databases and 75 from relevant websites. After removing duplicates and screening titles, abstracts, and full texts, 17 documents were ultimately included: 2 clinical decision support tools [**?**], 3 expert consensuses [**?**], and 6 guidelines [**?**]. The literature screening process is illustrated in Figure 1 [Figure 1: see original paper], and the basic characteristics of the included literature are summarized in Table 2 .

Regarding the quality assessment of the literature, 6 systematic reviews [**?**] and 2 clinical decision support tools from UpToDate [**?**] were found to be of high quality and were directly included in the study.

This study included 2 clinical decision support tools [**?**], both of which demonstrated high overall quality and were subsequently included. The quality assessment results are presented in Table 3 . Additionally, 6 guidelines were included [**?**]. Except for item 6 ("Is there any inconsistency between the proposed viewpoint and previous literature?"), which was rated "No" for all, all other items were rated "Yes," indicating high overall quality. The quality assessment results for these guidelines are shown in Table 4 . Furthermore, 3 expert consensuses were included (authored by Barry, Brooks, Van Rheenen, Kumagai, Van Den Brink, Rodriguez, Wakimizu, Cassidy, Schmidt, and Yassaee). Among the 6 systematic reviews included [**?**, **?**], the study by Garcia-Rodriguez et al. met all criteria with "Yes" ratings. Wakimizu et al. and Cassidy et al. were rated

“Unclear” only for item 4 (“Was the search of databases or resources adequate?”).

The literature search across databases yielded 4,233 records: PubMed (660), Cochrane Library (69), Web of Science (579), CINAHL (421), MEDLINE (573), EMbase (655), OVID (227), China Biology Medicine (567), CNKI (180), Wanfang Data (168), and VIP (134). An additional 75 records were identified through relevant websites: BMJ (14), UpToDate (14), JBI (7), NICE (8), SIGN (3), World Gastroenterology Organisation (5), NZGG (1), RNAO (7), and Medlive (16). After using Endnote to remove 3,042 duplicates, 1,226 records remained. Following a screening of titles and abstracts to exclude irrelevant topics, populations, or document types, the remaining articles underwent full-text review. After excluding 311 articles due to lack of full-text availability or other criteria, 17 documents were finally included: 2 clinical decisions, 6 guidelines, 3 expert consensuses, and 6 systematic reviews. (Note: JBI = Joanna Briggs Institute; NICE = National Institute for Health and Care Excellence; SIGN = Scottish Intercollegiate Guidelines Network; NZGG = New Zealand Guidelines Group; RNAO = Registered Nurses’ Association of Ontario).

Figure 1 [Figure 1: see original paper] presents the flow chart of literature screening. Key included documents include: “Medical Transition from Pediatrics to Adulthood: Evidence-Based Guidelines”(PubMed); “European Crohn’s and Colitis Organisation: Transitional Care in Inflammatory Bowel Disease” (PubMed); and “Position Statement of the Italian Society of Gastroenterology: Transitioning Gastroenterology Patients from Pediatric to Adult Care” (PubMed).

The quality assessment results for the expert consensuses (including authors such as Barry, Brooks, and Van Rheenen) are detailed in the following sections.

The assessment criteria for expert consensus (Kumagai, Van Den Brink, et al.) were as follows: Is the source of the opinion clearly identified? Does the opinion originate from influential experts in the field? Is the proposed viewpoint centered on the interests of the relevant population? Is the stated conclusion based on the results of the analysis, and is the expression of the viewpoint logical? Is there a reference to other existing literature? Is there any inconsistency between the proposed viewpoint and previous literature?

Regarding the systematic reviews, the study by Yassaee et al. was rated “No”only for item 9 (“Was the likelihood of publication bias assessed?”). For the studies by Schmidt et al. and Yassaee et al., item 6 (“Was the quality assessment of the literature completed independently by two or more evaluators?”) was rated “Unclear.” All other items for these studies were rated “Yes,” indicating high overall quality for inclusion. The quality assessment results are summarized in Table 5 .

3.1 Summary and Description of Evidence

From the 17 included documents, 30 pieces of evidence were analyzed, extracted, and organized into seven dimensions: transition goals, transition timing, multidisciplinary team preparation, transition readiness assessment, patient transition preparation, family collaborative support, and environmental and policy support. The specific evidence items are detailed in Table 6 .

3.2 Understanding Transition Goals and Clarifying Importance

Transition is a long-term, dynamic developmental process that is critical to the future self-management outcomes of adolescent patients with Inflammatory Bowel Disease (IBD). Current clinical practice focuses primarily on disease treatment and nursing, while the understanding and emphasis on the transition process remain insufficient. Transition encompasses a rich set of connotations; upon completion, patients should possess robust self-management capabilities, including disease knowledge, self-efficacy, pharmacological understanding, independent clinic attendance, and autonomous decision-making. A lack of understanding regarding the ultimate goals of transition is one of the primary factors hindering healthcare providers from actively implementing evidence-based practices. Therefore, clarifying the objectives of transition and using them as a guide is essential for promoting the design of effective clinical intervention programs and directly enhancing patient competencies.

The timing for the commencement of transition should be determined through a comprehensive and integrated assessment. Previously, transition planning relied solely on the patient' s age or the characteristics of the treating hospital, lacking scientific planning centered on the patient' s overall competencies. Factors such as disease duration, developmental maturity, psychological state, and cognitive level are more critical in determining whether a patient can begin the transition and effectively receive transition training. For patients diagnosed during childhood, transition preparation and training can begin at age 12 after a comprehensive feasibility assessment. For patients diagnosed during adolescence, transition should commence no later than age 16, ensuring that sufficient disease management knowledge and skills are acquired even within a shorter training period. Transition can occur at any stage of adolescence; implementing staged, targeted interventions during early adolescence (ages 12–14), middle adolescence (ages 14–17), and late adolescence (ages 18 and above) can improve the specificity and effectiveness of preparatory work.

3.3 Summary of Best Evidence for Transition Readiness Management in IBD Patients:

1. The purpose of transition is to shift patients from a dependent, family-led, and parent-decided pediatric healthcare system to an independent, individual-led, and proactive decision-making adult healthcare system through effective transition preparation.

2. Key evaluation indicators for successful transition include transition readiness, self-efficacy, health literacy, disease knowledge, self-management skills, medication adherence, outpatient attendance rates, quality of life, patient satisfaction, family support, and social integration [**?**].
3. The timing for the start of transition preparation is determined by the patient' s developmental maturity, psychological readiness, and cognitive ability, rather than being strictly limited by chronological age.
4. For patients with childhood-onset disease, it is recommended to begin transition preparation at age 12. Transition preparation should commence no later than age 16, with early implementation encouraged where appropriate.
5. It is recommended to conduct the transition during a period of stable disease remission.
6. It is recommended to develop personalized transition readiness plans based on developmental stages, categorized as early adolescence (12–14 years), middle adolescence (14–17 years), and late adolescence ($ $18 years).
7. A multidisciplinary transition management team should be established, comprising pediatricians, pediatric nurses, adult gastroenterologists, Inflammatory Bowel Disease (IBD) specialist nurses, psychologists, dietitians, rehabilitation physicians, community healthcare providers, social workers, health insurance personnel, and information technology specialists. The specific responsibilities of each team member must be clearly defined.
8. It is recommended to appoint a dedicated transition coordinator to facilitate an orderly transfer between pediatric and adult healthcare systems. This coordinator should provide comprehensive oversight, coordination, and professional support throughout the entire transition process.
9. Prepare comprehensive medical records, including disease data, surgical history, hospitalization history, complications, medication history, adverse drug reactions, endoscopic results, imaging results, vaccination records, and other relevant clinical data to ensure a complete information handover between healthcare systems.
10. Establish specialized transition clinics staffed by multidisciplinary teams to provide professional medical services, serving as standardized transition centers.
11. All team members should receive comprehensive and systematic training covering IBD management, transition care strategies, and techniques for effective communication with adolescents and their caregivers during the transition process.
12. Regularly evaluate the implementation of the transition plan to monitor its effectiveness and guide quality improvement measures.
13. All patients must undergo readiness assessments both prior to and throughout the entire transition process.
14. While self-efficacy and disease knowledge can be used to indirectly assess transition readiness, the Transition Readiness Assessment Questionnaire (TRAQ) and the UNC TRxANSITION scale can be utilized for direct

measurement.

15. Assess the patient' s social, physical, and psychological status—including transition readiness, self-management abilities, disease knowledge reserves, medication adherence, social support networks, and mental health status—and conduct longitudinal tracking to evaluate changes in patient capacity and the effectiveness of interventions [?, ?, ?].
16. After a comprehensive evaluation of the patient' s developmental maturity, psychological state, cognitive function, future goals, long-term development requirements, family structure, and social relationships, patients, healthcare providers, and family members should collaboratively develop a personalized transition plan [?, ?, ?, ?, ?] [?, ?].
17. Guide the patient' s ability to manage their own medical records, enabling them to gradually and independently master disease test results, medication records, surgical interventions, and treatment plans [?, ?].
18. Develop structured intervention measures for sleep rhythms, alcohol consumption, smoking, physical activity, and nutritional intake, advocating for healthy lifestyle behaviors.
19. Special attention should be directed toward the psychological health of patients. Professional psychological assessments and supportive interventions should be provided by a dedicated team psychologist [?, ?].
20. Female patients should receive education and training regarding gynecological and reproductive health. This training should focus on the future impact of the disease, measures to avoid unintended pregnancy while undergoing pharmacological treatment, the reduction of pregnancy-related complications, and the optimization of disease control during planned pregnancies [?, ?, ?, ?, ?].
21. Communication platforms between patients and healthcare providers should be established utilizing telephone, email, text messaging, and web-based applications [?, ?, ?].
22. The completion status of the transition plan should be reviewed with the patient at least annually. The plan should be adjusted based on assessments of the patient' s current status and developmental needs [?, ?, ?, ?].
23. Family involvement plays a critical role in a patient' s successful transition; therefore, it is necessary to develop family-centered transition plans [?].
24. Caregivers should be informed of the significance and importance of the transition process and encouraged to reduce their proxy role in the patient' s disease management [?, ?].
25. It is essential to understand the perspectives, opinions, and expectations of both caregivers and patients regarding the transition. Mutually agreed-upon transition plans and intervention measures should be coordinated and developed [?, ?, ?].
26. Detailed health education programs and skills training should be provided through in-person lectures, manuals, and online courses [?, ?, ?].
27. Policy and financial support should be sought from national and local governments, hospitals, and institutions to ensure the continuity of transitional care and its systematic, comprehensive implementation [?].

28. Mobile health platforms and online remote technologies should be developed to help patients conveniently and quickly access reports, appointment information, educational resources, and communication channels within the healthcare system [**?**, **?**].
29. Establish and guide patients to participate in formal peer support groups to cultivate their independence and autonomy in obtaining and communicating disease information through peer interaction [**?**, **?**, **?**, **?**] [**?**].
30. Focus on the patient' s medical insurance type to develop appropriate treatment and nursing plans.

3.4 Establish a Multidisciplinary Transition Management Team to Provide Comprehensive Care

The transition process is a complex and massive undertaking that requires mutual cooperation and joint guidance from professionals across various disciplines. Clinical practice has confirmed that establishing a multidisciplinary team—including pediatricians, gastroenterologists, pediatric nurses, IBD specialist nurses, psychologists, nutritionists, and social workers—can more effectively ensure a successful transition for patients [**?**]. Experts leverage their respective professional expertise to jointly develop appropriate treatment and training plans, assisting patients with daily care, health guidance, and psychological counseling.

Simultaneously, collaboration with community health service center personnel and social workers helps provide community resources and social support. Furthermore, team members should undergo regular theoretical and practical skills training to enhance their awareness of the patient transition process and better serve the patients' needs. A comprehensive assessment of transition readiness is a necessary prerequisite, serving as the basis for formulating and adjusting transition plans. Currently, the Transition Readiness Assessment Questionnaire (TRAQ) and the UNC TRxANSITION scale have been developed to specifically measure patient transition readiness, and their feasibility and effectiveness have been confirmed in clinical practice [**?**]. However, considering the ultimate goal of transition, assessments must also comprehensively account for the patient' s social and psychological status. Future efforts should integrate these factors into the development of new professional measurement tools, which will help identify the root causes of problems in a timely manner and allow for targeted interventions to ensure a smooth transition.

Refining patient-centered transition guidance and improving transition readiness should prioritize strategies that enhance disease management knowledge, improve practical skills, adjust mental health status, promote social integration, and establish regular daily living habits. Therefore, whether healthcare providers manage the process through transition clinics, multidisciplinary teams, or transition coordinators, the primary task is to gradually enhance the patient' s understanding of inflammatory bowel disease (IBD) medications, surgeries, examinations, and complications through education and training. Building upon

disease management knowledge, training should also cover healthy lifestyle management. Regulating smoking, alcohol consumption, sleep, and healthy dietary habits can promote the formation of health literacy and assist in future disease management. Additionally, for female patients undergoing transition, education regarding contraception, preconception planning, pregnancy, and childbirth can be appropriately implemented. Transition is a long-term process; throughout the intervention, long-term follow-up and evaluation are essential for overall quality control. Utilizing outpatient clinics, websites, applications, and telephone follow-ups can improve patient engagement and completion rates, thereby ensuring the effectiveness of transition preparation.

Family collaboration and support empower patients to strengthen self-management, as positive family cooperation is vital for promoting independent decision-making. Conversely, family overprotection can hinder a smooth transition, leading to an imbalance between the patient' s long-term developmental needs for self-management and their actual medical behaviors. Treating the patient and their family as a holistic unit in transition management is necessary to fundamentally shift away from caregiver proxy and empower patient self-management. Before beginning transition preparations, caregivers must fully understand the importance and necessity of the transition and, under the guidance of medical staff, prepare for the shift in roles and the transfer of authority to provide strong support for patient empowerment. Healthcare providers should fully understand caregivers' perspectives and expectations regarding transition participation, coordinate information asymmetries between patients and caregivers, and enhance internal family cohesion and cooperation. Caregivers should also participate in transition education and training through various formats—such as face-to-face lectures, educational brochures, and online courses—to enhance their awareness and confidence in the patient' s successful transition.

Environmental and policy support provide a robust external guarantee for transition management. Medical policies, environmental factors, and technical support are necessary conditions for the successful transition of adolescent patients. Adequate funding provides a solid material foundation for the smooth implementation of transition management, ensuring that the transition for adolescent patients is sustainable at the policy level. Information technology personnel should be involved in the design of transition management systems, developing various mobile information platforms to facilitate patient access to information, medical consultations, appointment scheduling, and education. These platforms can also effectively improve patient compliance. Furthermore, by pooling patient resources from both hospitals and communities, healthcare providers can construct and guide patients toward peer support groups. Creating such platforms for peer information exchange fosters independence and autonomy in acquiring and communicating disease-related information, thereby establishing a favorable environment for the patient' s transition.

4 Summary

Successful transition is a critical component for achieving long-term health development in adolescent patients with Inflammatory Bowel Disease (IBD). This study employed an evidence-based approach to systematically synthesize 30 items of best evidence, covering transition goals, timing of transition readiness, multidisciplinary team collaboration, assessment of transition readiness, patient preparation, family collaborative support, and environmental and policy support. These findings provide a structured transition management framework for patients, caregivers, and healthcare providers. However, this study has certain limitations; as the included literature originates entirely from international sources, significant differences exist regarding cultural backgrounds, geographic characteristics, healthcare policies, and humanistic factors. Therefore, it is recommended that in specific clinical practice, healthcare professionals should integrate these findings with China' s medical policies and environment, specific patient conditions, and clinical contexts to facilitate the translation of evidence-based findings. Managing the transition of adolescent IBD patients through scientific and standardized methods will ultimately improve long-term health outcomes.

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