



Review Article

Effect of transitional nursing care on quality of life among patients with type 2 diabetes: A meta-analysis of randomized controlled trials

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ARTICLE INFO

Received 30 August 2023
Accepted 31 October 2023

Available online at:
<http://npt.tums.ac.ir>

Keywords:

transitional nursing care;
quality of life;
type 2 diabetes;
meta-analysis

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DOI:

10.18502/npt.v10i4.14077

ABSTRACT

Background & Aims: Type 2 diabetes accounts for 95% of all diabetes cases worldwide, and its prevalence continues to rise. The constant management of blood glucose levels can be burdensome, further deteriorating patients' quality of life. This study aims to determine the effect of transitional nursing care on the quality of life among adults with type 2 diabetes.

Methods & Materials: We conducted a meta-analysis of randomized controlled trials (RCTs) to determine the effectiveness of transitional nursing care on the quality of life of adults with type 2 diabetes. We searched for published Randomized Controlled Trials (RCTs) on PubMed, Embase, CINAHL, and the Cochrane Library. The process of study selection spanned from March 2023 to April 2023. Data synthesis was performed using Review Manager 5.4 to generate pooled effect size estimates.

Results: A total of six studies were included in our analysis. Our results showed that transitional care significantly improved the quality of life of adults with type 2 diabetes (SMD= 0.55, 95% CI: 0.15, 0.95, Z= 2.72, p= 0.007). Compared to usual care, transitional care also significantly lowered HbA1c levels (MD= -0.39, 95% CI: -0.70, -0.07, Z= 2.41, p= 0.02).

Conclusion: Our research identified that transitional nursing care significantly improved the quality of life among adults with type 2 diabetes. Nurses should take into account our positive findings when implementing this care model for these patients. We suggest that future researchers carry out more studies with a focus on transitional nursing care for patients with type 2 diabetes to investigate its impacts further.

Introduction

Type 2 Diabetes Mellitus (T2DM) is a chronic metabolic disorder characterized by high blood sugar levels resulting from the body's inability to effectively use insulin, a hormone that regulates blood sugar (1). According to the International Diabetes Federation, in 2022, there will be 463 million adults living with diabetes worldwide, and the prevalence of type 2 diabetes continues to rise. In fact, diabetes is projected to affect 700 million people by 2045 (2). If left unmanaged, diabetes can lead to various

complications, including cardiovascular disease, neuropathy, kidney damage, and eye problems (3).

Management involves a combination of lifestyle modifications along with education and support, which are crucial for individuals with type 2 diabetes to effectively reduce the risk of complications and ongoing healthcare follow-up (4). Another vital indicator in managing and monitoring individuals with type 2 diabetes is HbA1c, or glycated hemoglobin (5). Monitoring



HbA1c levels is crucial since it provides valuable insights into the effectiveness of diabetes management and helps nurses assess the overall glycemic control of patients (6).

Type 2 diabetes significantly impacts the quality of life of individuals affected by the condition (7). The constant management of blood glucose levels, which often involves dietary restrictions, medication administration, and regular monitoring, can be burdensome and time-consuming, which gradually leads to feelings of frustration (8). Moreover, the potential complications associated with type 2 diabetes, including cardiovascular diseases, can further deteriorate the quality of life, which results in physical discomfort, reduced mobility, and a higher risk of disability (9,10). Additionally, the need for regular medical appointments and self-care practices can disrupt daily routines and impose psychological and emotional stress (11, 12). During critical periods of care transition or hospital discharges, individuals with type 2 diabetes face increased risks of medication errors, miscommunication, and gaps in care (13). To address these challenges, providing structure and coordination support during transitions is essential (14).

Transitional care is defined as a set of actions designed to ensure continuity of health care as patients transfer between different locations or different levels of care within the same location, including hospitals, nursing facilities, home care, and clinics (15). Specifically, transitional nursing care refers to the provision of nursing services and support during the transition of patients, promoting continuity and effective management of their health (16). The fundamental elements of transitional nursing care encompass self-management or a self-care plan, ensuring continuity of care. In sum, transitional nursing care facilitates transitions between healthcare settings, self-care empowers individual patients in managing their health, and self-management programs provide structured education and tools for effective disease management (17,18). Thus, a comprehensive transitional nursing care approach ultimately

leads to better health outcomes and an improved quality of life for individuals with type 2 diabetes (19). However, the evidence on the effectiveness of transitional nursing care programs for type 2 diabetes is limited and inconsistent.

Previous meta-analyses have been conducted to identify the effect of transitional care on various patient populations. One meta-analysis in 2015 identified that transitional care reduced admission risk in patients with congestive heart failure but did not address its effect on quality of life (20). Another meta-analysis in 2020 addressed the effect of transitional care on the quality of life of stroke survivors but was limited to stroke patients only (21). Meanwhile, a recent meta-analysis in 2022 identified the benefit of transitional care in improving the quality of life in older adults with chronic disease but did not include the type 2 diabetes population and only focused on older adults (22). Moreover, these studies did not explore the impact of transitional nursing care on the quality of life of individuals with type 2 diabetes, and they failed to identify the effects of transitional nursing care on HbA1c levels. Therefore, a comprehensive meta-analysis is needed, as there is currently limited information related to this specific topic.

Identifying the benefits of transitional nursing care is vital for improving the quality of life and enables nurses to provide more targeted and effective support for this vulnerable population. Therefore, we conducted the present meta-analysis to determine the effect of transitional nursing care on quality of life among patients with type 2 diabetes.

Methods

Reporting standard

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses were used to conduct and guide the current review (PRISMA checklist) (23).

Eligibility criteria

The eligibility criteria were established per the Cochrane PICO acronym, which refers to

parameters involving population, intervention, comparison, outcome, and study design. In this study, PICO refers to P (adults with type 2 diabetes), I (transitional care programs consisting of web-based transitional care or empowerment-based transitional care or self-management-based transitional care or self-care), C (control or usual care), and O (the quality of life and HbA1c level),

and S (randomized controlled trials study design). Studies that assessed the quality of life in populations other than those with type 2 diabetes had other forms of publication types, including protocols, systematic reviews, case reports, and observational studies, or were duplicates were excluded from this meta-analysis.

Table 1. Search strategy

Database	Date of Search	Search String	Number of studies
Embase	March 6 th 2023	#8. #3 OR #6 AND #7	113
		#7. 'quality of life'/exp OR 'quality of life'	
		#6. #4 OR #5	
		#5. 'home visit'/exp OR 'home visit'	
		#4. 'transitional care'/exp OR 'transitional care'	
		#3. #1 OR #2	
The Cochrane Library	March 6 th 2023	#2. 'diabetes mellitus'/exp OR 'diabetes mellitus'	6
		#1. 'non insulin-dependent diabetes mellitus'/exp OR 'non insulin-dependent diabetes mellitus'	
		#1 MeSH descriptor: [Diabetes Mellitus] explode all trees	
		#2 MeSH descriptor: [Transitional Care] explode all trees	
		#3 MeSH descriptor: [Quality of Life] explode all trees	
		#4 MeSH descriptor: [House Calls] explode all trees	
CINAHL	March 6 th 2023	#5 #2 OR #4	24
		#6 #1 AND #5 AND #3	
		S9 S6 AND S7 AND S8	
		S8 S3 OR S4 OR S5	
		S7 S1 OR S2	
		S6 (MH "Quality of Life+")	
		S5 (MH "Home Visits")	
		S4 (MH "Transitional Programs")	
		S3 (MH "Transitional Care")	
		S2 (MH "Diabetes Mellitus, Type 2")	
S1 (MH "Diabetes Mellitus+")			
PubMed	March 6 th 2023	((("diabetes mellitus"[MeSH Terms] OR ("diabetes"[All Fields] AND "mellitus"[All Fields]) OR "diabetes mellitus"[All Fields] OR ("diabetes mellitus, type 2"[MeSH Terms] OR "type 2 diabetes mellitus"[All Fields] OR "diabetes mellitus type 2"[All Fields])) AND ("transitional care"[MeSH Terms] OR ("transitional"[All Fields] AND "care"[All Fields]) OR "transitional care"[All Fields])) OR ("house calls"[MeSH Terms] OR ("house"[All Fields] AND "calls"[All Fields]) OR "house calls"[All Fields] OR ("home"[All Fields] AND "visit"[All Fields]) OR "home visit"[All Fields])) AND ("quality of life"[MeSH Terms] OR ("quality"[All Fields] AND "life"[All Fields]) OR "quality of life"[All Fields]) AND (randomizedcontrolledtrial[Filter]))	264
Total			407

Search strategy

We searched for eligible studies using designated keyword combinations based on Medical Subject Headings (MeSH). The keywords were ('diabetes Mellitus' OR 'diabetes Mellitus, Type 2' OR 'non-insulin dependent diabetes mellitus') AND ('transitional care' OR 'transitional programs' OR 'home Visits' OR 'House Calls') AND ('quality of life'). We searched various databases, including PubMed, EMBASE, Cochrane Library, and Cumulative Index to Nursing and Allied Health Literature (CINAHL), from inception until March 2023, without any restrictions on publication date and

language, which aims to minimize the risk of publication bias, enhance the generalizability of the review, and ensure that the findings are based on the most complete and diverse evidence available. The detailed search strategy is outlined in Table 1. We also manually searched the references of the included studies for potentially eligible studies. Two authors (ARP and SP) independently performed the study selection, screening the titles, abstracts, and full texts of the potential studies. We resolved any disagreements by discussion among the authors.

Study selection

All results from the electronic searches were imported into EndNote Version 20 to remove duplicated articles. For the initial selection, irrelevant records were excluded through screening the titles and abstracts. Full-text articles of the remaining records were retrieved for further assessments of their eligibility. Regarding unavailable full-text, the original authors were contacted by e-mail to obtain a full-text article. Inconsistent results about eligible studies were resolved through discussion. The study selection process took place between March 2023 to April 2023.

Data extraction

We extracted the following information from each trial: first author, years of publication, country, study design, study setting, demographic characteristics (diagnosis, sample size, gender, mean age), transitional care characteristics (intervention program, duration, follow-up), outcome and measurements (instruments used and main outcome) and study results (significance of treatment within outcome).

Risk of bias assessment

The methodological quality used to assess the included RCTs was the Cochrane Risk-of-Bias Assessment Tool (RoB 2.0) recommended by the latest Cochrane Handbook (20). Two assessors assessed reviewed included articles independently and evaluated five domains of bias: (1) bias due to the randomization process, (2) bias due to deviations from the intended interventions, (3) bias due to missing outcome data, (4) bias due to measurement of the outcome and (5) bias due to selection of the reported data. Any discrepancy results in the risk of bias assessment was resolved through discussion with the third reviewer. Finally, each study's domain received a rating categorized as either "high," "some concerns," or "low" risk of bias.

Quality of evidence assessment

The Grading of Recommendation, Assessment, Development, and Evaluation (GRADE) approach was used to identify the certainty of the body of evidence (24). From the

approach, the evidence quality of RCTs was initially graded as high. It was downgraded as moderate, low, or very low when any limitations were identified in risk of bias, inconsistency, directness, imprecision, and publication bias. However, the evidence could be upgraded by a large effect and dose-response gradient. Two assessors graded the quality of evidence independently according to the GRADE handbook, and the kappa coefficient also evaluated the between-rater agreement in this part. Disagreements were resolved through discussion, or help was sought from a third author (MSNG).

Data synthesis and analysis

Our meta-analysis identified quality of life as the primary outcome, and the secondary outcome was HbA1c level. HbA1c, or glycated hemoglobin, is a crucial assessment tool in our study as it provides an average of blood glucose levels over a period of weeks/months. The data synthesis was performed using Review Manager 5.4, recommended by The Cochrane Collaboration 2020 (Cochrane Collaboration, <http://ims.cochrane.org/revman>). The standardized mean differences (SMDs) with 95% CIs were used in the quality-of-life outcomes of our included studies because the outcome was assessed by different tools (25). The mean differences (MDs) with 95% confidence intervals (CIs) were used as combined effects to calculate the pooled intervention effect on HbA1c level. According to the Cochrane Handbook version 6.2 (25), the standardized mean difference (SMDs) equals the effect size. The effect size was estimated to be small, medium, and large when the SMD was calculated to be less than 0.4, 0.4 to 0.7, and greater than 0.7, respectively (26). The heterogeneity was assessed using forest plots that used both Q (a significant result that indicates statistical heterogeneity) and I² (a significant result that indicates methodological heterogeneity) statistics. 25%, 50%, and 75% mean low, moderate, and high heterogeneity, respectively. A random-effects model was applied to calculate the pooled results if I² ≥ 50%; otherwise, a fixed-effects model was used. All tests were two-sided, and P < 0.05 was statistically significant. We did not perform the subgroup analysis or the publication bias

assessment in this review because the number of included studies was small (25).

Results

Search and screening process

After conducting a search in four databases and performing a manual search, we retrieved a total of 407 articles. We conducted a

duplicate check using the reference manager EndNote 20, resulting in 357 articles remaining for title and abstract screening. Ten full-text articles were further perused, of which three did not meet our inclusion criteria. Finally, there were six articles with RCT design that met our inclusion criteria for the meta-analysis. (Figure 1).

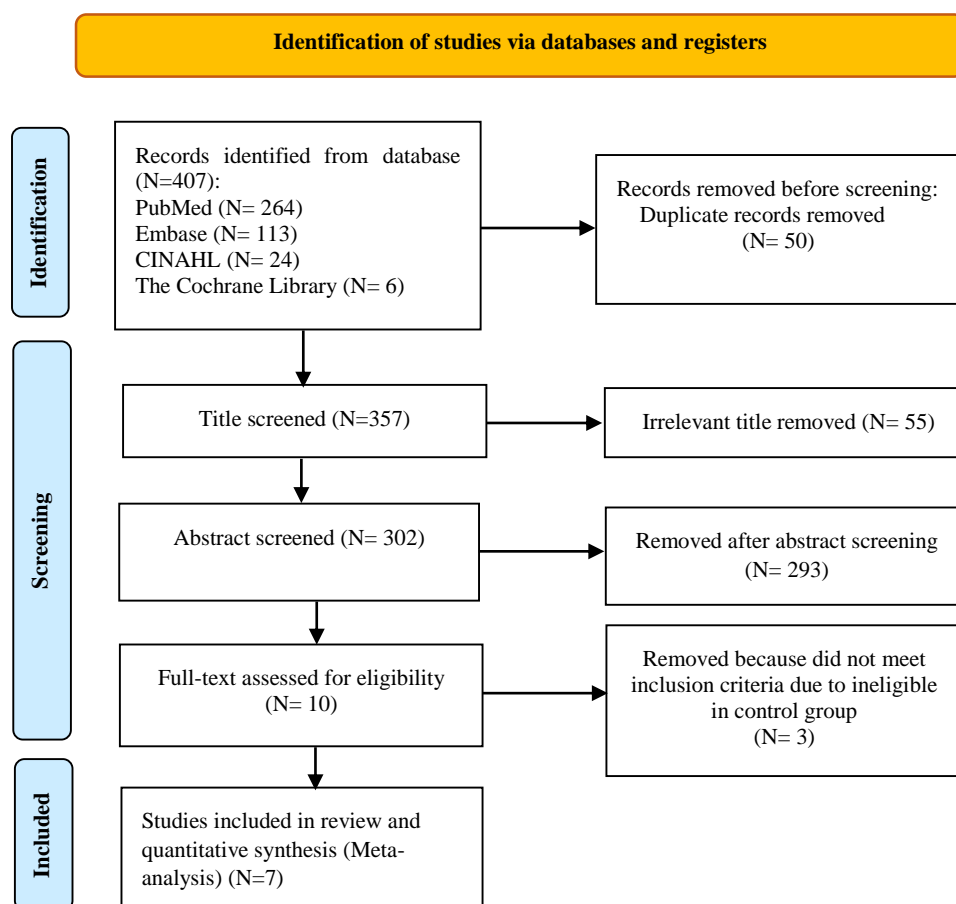


Figure 1. Flow diagram of the selection of Studies Based on PRISMA 2020

Studies and participants' characteristics

The essential characteristics of our included studies are shown in (Table 2). In total, six studies assessed the effectiveness of transitional care on adults with type II diabetes. There were 1,040 participants identified in 6 included studies who were randomly assigned to the experimental group (n= 530) and control group (n= 510), with sample sizes ranging from

106 to 270. Among the participants, the percentages of males and females were 36.2% and 63.8%, respectively. Five studies (27–31) recruited patients from hospital settings, and one study (32) recruited patients from community settings. According to the continent, four (27,30,31) were conducted in Asia, and two studies (28,32) were conducted in America. All the participants were adult patients, and the mean ages ranged from 55.0 ± 11.9 to 70.9 ± 5.8 ; however, one study did not provide age (32).

Table 2. Characteristics of included studies

Author (year) Country	Design Setting	Demographic characteristics			Control	Transitional care characteristics			Outcome and measurements	Results
		Diagnosis	Sample size (T/C) Gender	Mean age (SD)		TC program	Duration	Follow-up		
Cheng et al. (2019) China	RCT Hospital	T2DM	242 (121/121) F: 63 M: 86	55.0 (11.9)	UC	Empowerment-based transitional care program	6 weeks	3 months	1. QoL: <i>ADDQoL</i>	3 months 1. QoL: TC > UC
Dunbar et al. (2016) United States	RCT Hospital	HF-T2DM	134 (70/64) F: 46 M: 88	57.4 (10.6)	UC	HF-DM self-care program	3 months	3 months 6 months	1. QoL: <i>ADDQoL</i>	3 months & 6 months 1. QoL: no significance difference between groups
Lyu et al. (2021) China	RCT Hospital	T2DM	106 (54/52) F: 55 M: 51	60.9 (21.1)	UC	Web-based transitional care program	3 months	3 months	1. QoL: <i>SF-36 Chinese</i> 2. HbA1C	3 months 1. QoL: TC > UC 2. HbA1C: TC < UC
Markle-Reid et al. (2018) Canada	RCT Community	T2DM	141 (75/66) F: 79 M: 62	NI	UC	Self-management program	6 months	6 months	1. QoL: <i>SF-12</i>	6 months 1. QoL: no significance difference between groups
Tu et al. (2020) China	RCT Hospital	HF-T2DM	270 (135/135) F: 122 M: 148	70.9 (5.8)	UC	Hospital-to-home transitional care program	6 months	3 months 6 months	1. QoL: <i>QLICD-HY</i> 2. HbA1C	3 months 1. QoL: TC > UC 2. HbA1C: no significance difference between groups 6 months 1. QoL: TC > UC 2. HbA1C: TC < UC
Wattana et al. (2007)	RCT Hospital	T2DM	147 (75/72) F: 112 M: 35	56.8 (10.2)	UC	Diabetes self-management program	6 months	6 months	1. QoL: <i>SF-12 Thai</i> 2. HbA1C	6 months 1. QoL: TC > UC 2. HbA1C: TC < UC

Abbreviations: ADDQoL: audit of diabetes-dependent quality of life; HbA1c: hemoglobin A1c; HF-DM: heart failure-diabetes mellitus; HF-T2DM: heart failure-type 2 diabetes mellitus; NI: not identified; RCT: randomized controlled trial; SF-12: short form-12; T2DM: type 2 diabetes mellitus; TC: transitional care; UC: usual care; QoL: quality of life; QoL: QLICD-HY: quality of life instruments for chronic diseases-hypertension scale.

Risk of bias

Figure 2 shows the quality assessment of our included studies. Five trials had a low risk of bias in the randomization process, while one had some bias concerns. Four trials had a low risk of bias due to deviations from the intended intervention, while two trials had some concerns of bias. Five trials had a low risk of bias due to missing outcome data, while one had a high risk of bias. Five trials had a low risk of bias in the measurement of the outcome, while one had some concern of bias. Lastly, four trials had a low risk of bias in the selection of the reported result, while two trials had some concern of bias. Overall, two trials had a low risk of bias, three had some concern, and one had a high risk of bias.

Quality of evidence

According to the GRADE handbook, the evidence certainty for both quality of life and HbA1c level was graded as moderate. Regarding the risk of bias indicator, most of the included studies were assessed as having some concerns, which the assessors summarized and rated as serious. Other indicators, including inconsistency, indirectness, and imprecision, were rated as not serious for both outcomes. Regarding the certainty indicator, both outcomes were rated as moderate. Lastly, both outcomes were summarized as critical in terms of their importance. Further details are presented in Table 3.

Table 3. GRADE evidence profile

Outcomes	Certainty assessment							Summary of findings			Certainty	Importance
	No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	No of patients		Effect		
								Transitional care	Placebo	Absolute		
Quality of life	6	RCTs	Serious	Not serious	Not serious	Not serious	None	530	510	SMD 0.55 (95%CI: 0.15 to 0.95)	⊕⊕⊕○ Moderate	Critical
HbA1c	3	RCTs	Serious	Not serious	Not serious	Not serious	None	264	259	MD -0.39 (95%CI: -0.70 to -0.07)	⊕⊕⊕○ Moderate	Critical

Abbreviations: CI: confidence intervals; MD: mean difference; SMD: standardized mean difference; RCT: randomized controlled trial

Outcomes and instruments

All the assessment scales used in the outcome measurement were validated. The measurement tools used for quality of life varied among studies. Two studies (27,28) measured the Audit of Diabetes-Dependent Quality of Life (ADDQoL); one study (29) measured the Short Form Health Survey-36 (SF-36) Chinese

version; One study (33) measured Short Form Health Survey-12 (SF-12); one study (30) measured Quality of Life Instruments for Chronic Diseases-Hypertension Scale (QLICD-HY); and one study (31) measured the Short Form Health Survey-12 (SF-12) Thailand version. Regarding the HbA1C level, all included studies used vein blood from hospital health records.



Figure 2. Methodological quality assessments

Quality of life outcome

All included studies evaluated the effectiveness of transitional nursing care on the quality of life of diabetes type-II patients, with a total of 1,040 participants available for data

synthesis. Our results showed that transitional care compared to usual care had a significant medium effect size (SMD= 0.55, 95% CI: 0.15, .95, Z= 2.72, p= 0.007) with the I2 of 90% considered as high heterogeneity (Figure 3).

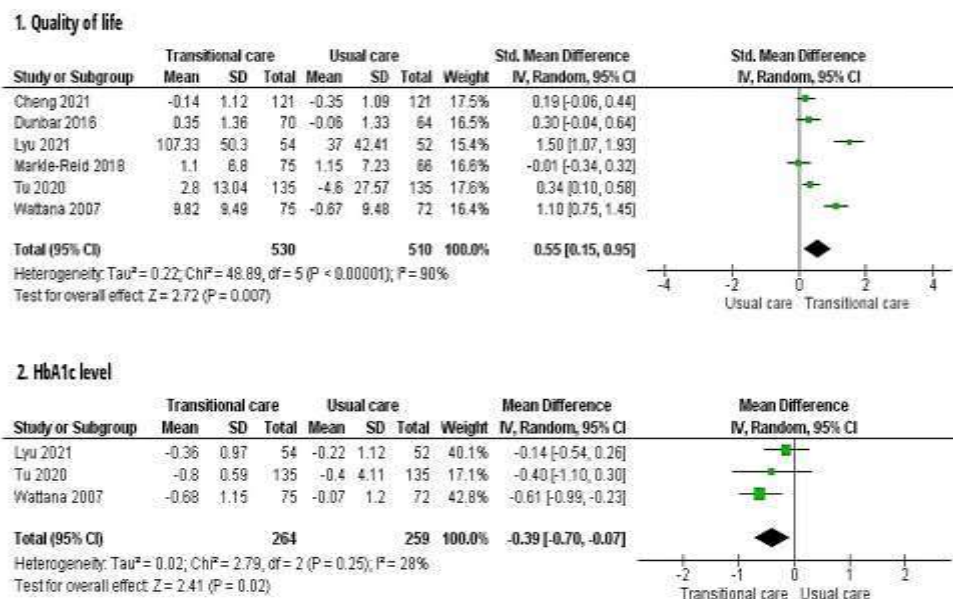


Figure 3. Forest plot of the effectiveness of transitional care on (1) quality of life, (2) HbA1c

Glycemic control outcome

Three studies (Lyu et al., 2021; Tu et al., 2020; Wattana et al., 2007) evaluated the effectiveness of transitional nursing care on glycemic control in diabetes type-II patients, with a total of 523 participants available for data synthesis. Our results showed that transitional nursing care compared to usual care had a significantly low effect size (MD= -0.39, 95% CI: -0.70, -0.07, Z= 2.41, p= 0.02) with the I² of 28% considered as low heterogeneity (Figure 3).

Discussion

To our knowledge, this is the first meta-analysis to provide evidence on the impact of transitional nursing care for patients with type 2 diabetes. This population faces unique challenges and needs during their transitions from hospital to community or home settings. Our included studies delved into various aspects of transitional care, including self-care programs and self-management programs for individuals managing type 2 diabetes. Dunbar's work involves individualized education and counseling led by a research nurse, along with home visits and scripted phone calls, with a special focus on in-depth physical activity counseling (28). In Markle-Reid's 6-month self-

management program, an interprofessional team conducts in-home visits, group wellness sessions, case conferences, and nurse-led care coordination, emphasizing self-efficacy, self-management, holistic care, and individual engagement (33). Wattana's diabetes self-management program is based on self-efficacy and self-management theories, featuring group education sessions and discussions on topics like meal planning, physical activity, foot care, medication use, symptom monitoring, and stress reduction (31). Cheng's 6-week empowerment-based transitional care program centers on patient-centered care, involving group discussions, phone consultations, and empowering patients with goal setting, problem-solving, and communication skills (27). Lyu's 3-month web-based transitional care program focuses on self-management, education, group interaction, and remote consultation, all conducted by nurses specializing in diabetes care (29). Tu's 6-month hospital-to-home transitional care program promotes hospital-community health center collaboration, facilitates patient referrals post-hospitalization, and provides self-management support through goal setting, action planning, education, and problem-solving, overseen by community nurses (30).

Our findings were in line with the previous study that identified the impact of transitional nursing care on the physical and emotional quality of life in adolescents with diabetes (19,34). A possible explanation was that self-management or transition plans stimulated adolescents to become more independent and enhance their self-management and coping skills not only with respect to the physical aspects of their condition but also the psychosocial aspects (34,35). Transitional care allows patients to be educated about diabetes self-management skills and strategies (35,36). Diabetes self-management transitional care refers to a coordinated and structured approach to supporting individuals with diabetes as they transition between different healthcare settings and focuses on empowering patients with the knowledge, skills, and resources they need to manage their diabetes during these transitions (37,38) effectively. Another study suggested that diabetes self-management education proved effective in improving quality of life (39). In other transitional subtypes, nurse-led web-based transitional care positively impacted the quality of life of diabetes patients (40). Web-based transitional care provided patients with convenient access to healthcare services and support from the comfort of their own homes (33). The accessibility of web-based apps promotes engagement and participation in diabetes self-management, leading to better health outcomes and an improved quality of life (41). Web-based platforms enable nurses to monitor patients' progress and health status remotely (42). Patients can input their blood glucose levels, medication adherence, lifestyle behaviors, and other relevant data, which can be monitored by nurses. This ongoing monitoring allows for timely interventions and adjustments in the care plan, promoting better diabetes control and reducing the risk of complications (43).

Our findings showed that transitional nursing care effectively lowered the HbA1c level in type 2 diabetes patients. HbA1c (hemoglobin A1c) refers to a blood test used to measure average blood sugar levels over two to three months, used in the diagnosis and management

of diabetes mellitus (44). For individuals with diabetes, HbA1c level below 7% was generally considered good control, between 7% and 8% indicated fair control, and above 8% indicated poor blood sugar control (45). Our current findings showed that diabetes patients maintained their HbA1c level of 7% after six months of intervention, which is considered fair control. This is in line with the previous study that identified the effect of a structured transition program on lower HbA1c levels among diabetes adults (46). The rationale of our findings was that transitional care focused on optimizing medication regimens, which nurses can ensure that patients understand their medications, including dosage, timing, potential side effects, and interactions (47). Effective medication management promoted adherence to treatment plans, leading to lower HbA1c levels (48,49).

According to these findings, transitional nursing care can effectively improve the quality of life and glycemic control of type 2 diabetes patients. Transitional care is a patient-centered approach that involves coordination and continuity of care across different settings and levels of care (50). Nurses or healthcare providers play a key role in providing transitional nursing care by educating, counseling, monitoring, and following up with patients and their caregivers (51). Nurses or healthcare providers can also collaborate with other health professionals and community resources to ensure that patients receive optimal care and support during the transition period. By implementing transitional nursing care, nurses can help patients manage their diabetes better, prevent complications, and enhance their well-being. Patients with type 2 diabetes can benefit from transitional nursing care by receiving more personalized and comprehensive care that meets their needs and preferences (52). Patients can also learn more about their condition, self-care strategies, medication adherence, and lifestyle modifications that can improve their health outcomes and quality of life. Transitional care can also empower patients to be more involved in their own care and decision-making process (53).

Overall, our study had several strengths: (1) it was the first systematic review and meta-analysis to identify a summary of the effect of transitional care on the quality of life among adults with type 2 diabetes, (2) other outcomes, including HbA1c levels, were also identified, (3) our meta-analysis was performed without language limits and collected randomized controlled trials to ensure the quality of the included studies, (4) our meta-analysis used RoB 2.0 and GRADE for trial appraisal, and (5) the quality of life was assessed in our included studies using gold standard assessment tools. However, there were some limitations to our meta-analysis. First, we estimated high heterogeneity in our meta-analysis. Second, we did not conduct a moderator analysis to identify other possible variables that may have affected the high heterogeneity. As a result, caution should be exercised when interpreting the findings, and it may be possible for future researchers to conduct a comprehensive meta-analysis that includes a moderator analysis in our field of study.

Conclusion

Our study indicated that transitional nursing care was significantly effective in improving the quality of life of adults with type 2 diabetes. Moreover, transitional nursing care was effective in reducing the HbA1c level of adults with type 2 diabetes. The transitional nursing care among included studies encompass approaches, including individualized education and counseling, nursing-led self-management programs, group education sessions, empowerment-based care, web-based transitional care, and hospital-community health center collaboration to support self-management and holistic care for type 2 diabetes patients. Therefore, transitional nursing care offers an effective approach to enhancing patients' quality of life, which clinical nurses, nurse managers, and community nurses can effectively implement through comprehensive care during the transition from one healthcare setting to another.

Acknowledgement

We would like to express our gratitude to the authors of the articles for sharing the results of their research.

Conflict of interest

There is no conflict of interest.

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