Appendices 1. Study Assessment Results for Systematic Review using The JBI Critical Appraisal Tools for RCT design research

No.	Studies	Questions													Result
		1	2	3	4	5	6	7	8	9	10	11	12	13	
1	21	Y	Y	Y	N	Y	N	Y	Y	U	Y	Y	Y	Y	10/13 (76.92%)
2	22	Y	Y	Y	Y	N	N	Y	Y	U	Y	Y	Y	Y	10/13 (76.92%)
3	20	Y	Y	Y	N	N	Y	Y	Y	U	Y	Y	Y	Y	10/13 (76.92%)
4	24	Y	Y	Y	Y	N	N	Y	Y	U	Y	Y	Y	Y	10/13 (76.92%)
5	30	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	11/13 (84,61%)
6	42	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	11/13 (84,61%)
7	11	Y	Y	Y	N	Y	N	Y	Y	N	Y	Y	Y	Y	10/13 (76.92%)
8	26	Y	Y	Y	N	Y	N	Y	Y	U	Y	Y	Y	Y	10/13 (76.92%)
9	55	Y	Y	Y	Y	N	Y	Y	Y	U	Y	Y	Y	Y	11/13 (84,61%)
10	31	Y	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	Y	10/13 (76.92%)
11	32	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	11/13 (84,61%)
12	44	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	10/13 (76.92%)
13	34	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	10/13 (76.92%)
14	40	Y	Y	Y	Y	N	N	Y	Y	U	Y	Y	Y	Y	10/13 (76.92%)
15	35	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	11/13 (84,61%)
16	37	Y	Y	Y	N	Y	N	Y	Y	N	Y	Y	Y	Y	10/13 (76.92%)
17	41	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	11/13 (84,61%)
18	46	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	11/13

															(84,61%)
19	36	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	10/13 (76.92%)
20	39	Y	Y	Y	Y	N	Y	Y	Y	U	Y	U	Y	Y	10/13 (76.92%)
21	48	Y	Y	Y	N	Y	N	Y	Y	N	Y	Y	Y	Y	11/13 (84,61%)
22	49	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	N	Y	10/13 (76.92%)

Abbreviations: Y (Yes), N (No)

Result: the result shows the percentage of article appraisal using JBI Critical Appraisal Tools. Articles that are eligible to be used as a source for this review must have a rating above 50%

Appendices 2. Selected article for Self-management in type 2 Diabetes Mellitus

No	Author	Study Design	Population	Intervention	Outcome	Result	Time
1	(21)	RCT	Adult patients with type 2 diabetes in Jimma University Medical Centre	Educational handbook and fliers with local cultural adaptations	HbA1c, Knowledge of DM, self-care behaviors regimens, and diabetes self-efficacy.	At 4 months follow-up, respondents in the intervention group had better control over their health conditions, including physical activity, diet and social relationships. The most impactful influence is the motivation given to achieve the goal.	4 months
2	(22)	RCT	Patients with an HbA1c >7.5% (58 mmol/mol) and free of diabetes complications	Method of goal setting oriented documented in "diary"	HbA1c, SBP, DBP, LDL, HDL, TG, WHR, body weight and body height, self-efficacy	After 6 months of post-intervention follow-up, there was a significant difference in HbA1c levels between the intervention and control groups. This was also followed by increased physical activity and decreased energy requirements between before and after the intervention in the intervention group.	6 months
3	(20)	RCT	Patients with uncontrolled HbA1c (> 7.0%)	Web of MyDIDeA and Diet Planning Module	HbA1c, FBG, Knowledge, Attitudes and Behaviour (DKAB), Stages of Diet Change (DSOC)	Both groups showed an increase in the number of scores on dietary, knowledge, attitude and behavior (DKAB), but the margin of increase seen from the mean value was still greater in the intervention group. This study is one of the first to demonstrate that e-	6 months

No	Author	Study Design	Population	Intervention	Outcome	Result	Time
						intervention can be a viable method for implementing chronic disease management in developing countries.	
4	(24)	RCT	140 volunteer individuals with Type 2 diabetes, recruited from a diabetes clinic in rural Thailand	Family-oriented self-management to increase self-efficacy, glycaemia control and quality of life using self-help	HbA1c, DSMES, self-management, PTCES, quality of life, MCS, Diabetes knowledge	Self-efficacy, self-management, and quality of life improved in the intervention group but there was no improvement in the control group. Compared to the control, the intervention group had significantly better independence, self-management, outcome expectations, and diabetes knowledge.	13 weeks
5	(30)	RCT	151 adults (76% women, mean age 52.5) with type 2 diabetes (HbA1c > 8%), treated in the diabetes consultation units of two secondary health centers in Bamako	Structured Type 2 Diabetes Self-Management Education by Peers (ST2EP) using booklets	HbA1c, BMI, Waist circumference, SBP, DBP, Knowledge	Peer-led structured patient education (Structured patient education) which is carried out for one year can improve blood sugar control with anthropometric parameters (HbA1c, BMI and waist circumference)	12 months
6	(42)	RCT	Participants are patients of an interprofessional primary care team with age over 18 years, diagnosed with diabetes.	Home integration visits, phone calls, or secure messaging via kindredPHR ™ (Personal health record)	HbA1c, Self-efficacy, decisions on health services, physical activity, patient empowerment	At the 4th month follow-up, the results were better in the intervention group than in the control group, namely physical activity. The most defined goal domains are	4 months

No	Author	Study Design	Population	Intervention	Outcome	Result	Time
						physical activity, diet / nutrition, and social relationships. Respondents feel the greatest impact is the motivation to achieve goals.	
7	(11)	RCT	240 patients with type 2 diabetes at the Golestan Hospital, Ahvaz	Educational booklet with the Health Belief Model approach	HbA1c, FBS, total cholesterol, LDL, HDL, Triglyceride, Nutritional knowledge, quality of life, HbA1c, FBS, total cholesterol, LDL, HDL, Triglyceride	Study results suggest that through tailored self-efficacy education, the quality of life and metabolic profile of diabetic patients can be improved. Respondents in the intervention group had significantly better metabolic and glycaemia profiles than those in the control group. It also showed that knowledge, health beliefs and quality of life were significantly improved in the intervention group.	24 weeks
8	(26)	RCT	Sub-optimally controlled (glycated haemoglobin (HbA1c) $\geq$ 8%) type 2 diabetes patients	Empowerment and interactive teaching model	Variable: HbA1c, SBP, DBP, BMI	After 6 months of follow-up, there was no significant difference in HbA1c between the two groups. DSME also made no significant changes in secondary outcomes. This was possible because the interventions were too short.	6 months
9	(55)	RCT	242 patients with type 2 diabetes	Empowerment training	HbA1c, FBG, non FBG, Triglyceride, Cholesterol, LDL, HDL	The empowerment training intervention affected mean	3 months

No	Author	Study Design	Population	Intervention	Outcome	Result	Time
						HbA1C levels and other metabolic indicators, which showed a significant difference in the experimental group compared to the control group. This study shows good results on the implementation of empowerment training in metabolic control.	
10	(31)	RCT	Persons aged 18 years or older diagnosed with type 2 diabetes and treated in primary care	Proactive Interdisciplinary Self-Management (PRISMA) training program.	HbA1c, body mass index (BMI), blood pressure, and cholesterol level	PRISMA did not improve patient self-reported outcomes (knowledge, skills and confidence for self-management, diabetes self-care behaviors, health-related quality of life, and emotional well-being) after 6 or 12 months of follow-up. This is possible because this program is similar to the care that has been provided so far, making it less attractive to respondents.	12 months
11	(32)	RCT	480 adults with well controlled diabetes	Text messages related to self-management support using	HbA1c, BMI, waist circumference, blood pressure, foot wounds	In the intervention group, the ability to regulate HbA1c was better than that of the control group, but it was not statistically significant. The use of mHelath via text messages to improve self-management in existing programs in	6 months

No	Author	Study Design	Population	Intervention	Outcome	Result	Time
						community services has no significant effect. This could be due to differences in disease characteristics and respondent characteristics in three different regions.	
12	(44)	RCT	97 adults diagnosed with T2DM equal more than 1 year and hemoglobin A1c (HbA1c) levels equal more than 8.0% (64 mmol/mol)	Consultation by telephone	Hb A1c, Self-management, well-being, motivation, and autonomy support	Mean HbA1c decreased slightly in both groups. Autonomy support and healthy eating frequency were significantly higher in the intervention group. Most of the participants in the intervention group chose to set goals related to diet and physical exercise.	6 months
13	(34)	RCT	patients with Type 2 diabetes within the primary care setting	Care management intervention via home visit and telephone	HbA1c, blood pressure, BMI, HRQOL	There was no significant difference in quality of life between the intervention and control groups after follow-up at 9 months. Additional care management for multimorbid T2DM patients does not affect HRQOL and is no better than standard care in disease management programs.	9 months
14	(40)	RCT	116 participants who presented type 2 diabetes were recruited at a medical center	Acceptance and Commitment	HbA1c, Diabetes self-care, acceptance, and action Intervention:	After 3 months of intervention, it was compared with respondents who received educational interventions only.	3 and 6 months

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					therapy in people with T2DM	Respondents who were given acceptance therapy and group commitment were more likely to use effective coping strategies, could perform better diabetes self-care, and HbA1C within the targeted range.	
15	(35)	RCT	101 patients who received diabetes care from an endocrinologist	Diabetes self-management education with exercise training program given to inpatients at the hospital	HbA1c, fasting blood sugar, blood sugar 2 hours PP, Self-care activity	Compared with the control group, diabetes self-care measures summary scores and problems in diabetes, fasting blood glucose, 2-hour postprandial blood glucose, and HbA1c were significantly increased in the intervention group after the intervention. the overall level of self-management of patients with T2DM is still relatively low. Some patients have obvious negative emotions. Short-term diabetes self-management education for outpatients can effectively improve the level of self-management, psychological conditions, and glycaemic control in T2DM.	3 months
16	(37)	RCT	70 adults, aged 45 years or older, with type 2 diabetes who were taking insulin and who	Pharmacotherapeutic Care Plan (PCP)	HbA1c, Knowledge about diabetes, knowledge about medication,	Diabetes knowledge, medication knowledge, medication adherence and	6 months

No	Author	Study Design	Population	Intervention	Outcome	Result	Time
			had an HbA1c level equal more than 8%		insulin injection technique, quality of life	ability to correct insulin injection and home blood glucose monitoring techniques increased significantly in the intervention group but remained unchanged in the control group. The same thing happened to HbA1c levels and better quality of life in the intervention group.	
17	(41)	RCT	Participants are patients of an interprofessional primary care team with age over 18 years, diagnosed with diabetes.	The Health TAPESTRY-HC-DM intervention focused on patient health goals/needs, integrating community volunteers, eHealth technologies, interprofessional primary care teams, and system navigation	HbA1c, Self-efficacy, decisions on health services, physical activity, patient empowerment	At the 4th month follow-up, the results were better in the intervention group than in the control group, namely physical activity. The most defined goal domains are physical activity, diet / nutrition, and social relationships. Respondents feel the greatest impact is the motivation to achieve goals.	4 months
18	(46)	RCT	People 18 years old or older who were diagnosed with T2DM	Proactive Interdisciplinary Self-Management (PRISMA) program	Drug adherence	Proactive Interdisciplinary Self-Management (PRISMA) did not significantly improve treatment adherence in the intervention group. There was a slight improvement in medication possession ratio (MPR) and medication adherence, while	6 months

No	Author	Study Design	Population	Intervention	Outcome	Result	Time
						no improvement was found in patient self-reports.	
19	(36)	RCT	patients with diabetes who had been referred to the Valiasr Endocrinology Clinic at Imam Khomeini Hospital in Tehran, Iran	effects of a family-based training program on QOL in persons with Type 2 diabetes.	Quality of Life	after the 12-week training program showed a significant difference between the scores for the two groups of patients in the physical, mental, social, economic, disease, and treatment dimensions	3 months
20	(39)	RCT	Newly diagnosed people with type 2 diabetes in Tehran, Iran	Persian Diabetes Self-Management Education (PDSME) using brochures and leaflets, PDSME provides 2 ½ hours of education over a 4-week period followed by two 'booster' sessions, each 2 weeks apart.	HbA1c, Diabetes knowledge, management behavior, self-confidence, health beliefs, and attitudes towards diabetes	Significant improvements were seen in PDSME patients for self-care behavior, health beliefs, attitudes towards diabetes, stigma, self-efficacy, and patient satisfaction. The PDSME program is effective in enhancing cognitive and clinical outcomes of self-management. The results support the use of intervention mapping to plan effective interventions. Given the large number of people with diabetes and the lack of affordable diabetes education, PDSME deserves consideration for implementation.	18-21 months
21	(48)	RCT	80 patients suffering from type-2 diabetes	Phone calls consisting of 6 sessions in a series of implementation as well as one-on-	HbA1c, Self-management behavior, self-confidence,	After the intervention and follow-up at months 3 and 6, self-efficacy,	6 months

No	Author	Study Design	Population	Intervention	Outcome	Result	Time
				one consultation with education about self-efficacy and self-care	and outcome expectations	expected outcomes and self-care were significant differences between the control and intervention groups. HbA1c levels were significantly different after 6 months, followed by diet, physical activity and foot care.	
22	(49)	RCT	Patients with type 2 diabetes who were registered by the diabetes education center of the university hospital	Diabetes self-management education	HbA1c, Diabetes self-management behavior	After SCDNT-based diabetes self-management education, there was a significant difference in self-care between the two groups, but there was no significant difference in HbA1c and self-care activities between the two groups.	6 months

Abbreviations: HbA1c : hemoglobin A1c; SBP : systolic blood pressure; DBP : diastolic blood pressure; LDL: Low Density Lipoprotein; HDL : High Density Lipoprotein; TG : Triglycerides; WHR : waist-hip ratio; FBG : Fasting blood glucose; DSMES : Diabetes self-management education and support; PTES : Perceived Therapeutic Efficacy Scale; MCS : Mental Component Summary