Abdimas Umtas: Jurnal Pengabdian Kepada Masyarakat
LPPM-Universitas Muhammadiyah Tasikmalaya
Volume: 7, Issue:3, 2024; pp: 901-912
E-ISSN: 2614 - 8544

Coping Techniques and Family Empowerment in Lowering Diabetes Distress, Depression, and Personal Care Management Among Individuals Having Diabetes Type 2 Kahuripan Health Centre Working Area, Tasikmalaya City

Anih Kurnia[a)], Betty Suprapti, Aruf Khoerun Nufus, Gilang Ramadan, Raihan Thoriq Abdillah, Rillah Arti Utami

Diploma III of Nursing Study Program, Faculty of Health Sciences University of Bakti Tunas Tasikmalaya, Indonesia

[a)]Corresponding author: anihkurnia@universitas-bth.ac.id

ABSTRACT

Diabetes is a problematic condition that must be controlled effectively. Adaptive coping methods are techniques for dealing with situations or stressors that require someone to handle them. Problem-focused coping strategies attempt to modify the source of stress, whereas emotional emphasis focuses on regulating the feelings that arise in response to perceived stress triggers. This study explores coping strategies and family empowerment for improved self-care management in persons with type 2 diabetes. This community service used a descriptive quantitative design using a total sampling technique, which included all sufferers who participated in PROLANIS activities between February 5 and May 27, 2024. Activities were carried out to develop an understanding of adaptive coping strategies and disease perspectives in managing the diabetes mellitus they suffer. Results. Blood pressure measurements in stage 1 hypertension fell from 38.6% to 28.1% following the activity and in stage 2 hypertension, from 26.3% to 22.8%. Body mass index (BMI) grew from 38.6% to 63.2%, overweight from 33.4% to 15.8%, and obese from 28% to 21.1%. HbA1c, total cholesterol, and triglycerides did not change with HbA1c levels > 6.5% (54.4%); total cholesterol at alert level 36.8%; danger > 240 mg/dl 28.1%; triglycerides at alert level 17.5%; danger > 400 8.8%. The Bref-Cope questionnaire revealed that the majority of respondents had strong coping in focussing (70.2%), were able to deal with emotions well (91.2%), and were able to overcome avoidance (57%). According to the research findings, most PROLANIS participants' coping techniques were effective, albeit the results varied, beginning with focusing on difficulties and overcoming avoidance. This demonstrates that most T2D patients have adapted to their illnesses. However, HbA1c, total cholesterol, and triglyceride test results show an inverse relationship. This demonstrates poor self-care management on the part of the patient. T2D patients require assistance in managing self-care through family empowerment and the active participation of patients, families, and healthcare providers in preventing complications.

ARTICLE INFO

***Article History*:**
Submitted/Received 4 Jun 2024
First Revised 2 Jul 2024
Accepted 3 Jul 2024
First Available online 31 Jul 2024
Publication Date 31 Jul 2024

Keyword :
Coping techniques
Family empowerment
Reducing diabetes distress
Depression
Self-care management
T2D patients

https://doi.org/10.35568/abdimas.v7i3.4886

INTRODUCTION

Diabetes mellitus is a complex and chronic condition characterized by chronic blood glucose levels or hyperglycemia (International Diabetes Federation, 2021). Diabetes self-care can be complicated, demanding, and stressful (Chan et al., 2015; Debussche et al., 2009; Hapunda, 2022) particularly in impoverished nations where health care and formal support networks are underdeveloped (Pastakia et al., 2017).

Diabetes is a challenging disease to manage. Diabetes patients frequently develop complications and comorbidities. This reduces the sufferer's quality of life. Appropriate illness management solutions, such as adaptive strategies, are required in treatment. Adaptive coping methods are tactics that a person employs to help them adjust effectively to situations or stress triggers that require management, such as acceptance and active coping, which can aid in maintaining excellent health outcomes, including glycemic control (Albai et al., 2017). Maladaptive behaviors, such as wishful thinking and avoidance, can have an impact on glycemic control as well as psychosocial outcomes, including quality of life and depressive symptoms (Albai et al., 2017; McCoy & Theeke, 2019; Roy et al., 2020). Adaptive and maladaptive coping techniques can focus on current problems or emotions. Problem-focused coping refers to efforts to handle issues and logically change the circumstances that cause discomfort. On the other hand, emotion-focused coping is prompted by stressful events in management or the regulation of emotions that may accompany or occur as a result of stress. People use behavioral coping methods to overcome stressful events or situations by altering their activities (Shibeshi et al., 2022).

Diabetes-related psychosocial issues are prevalent in people with type 1 and type 2 diabetes (McCoy & Theeke, 2019; Young-Hyman et al., 2016). According to the 2018 clinical consensus guidelines on juvenile diabetes, children and adolescents with type 1 diabetes experience depression, diabetes-specific distress, cognitive problems, eating disorders, and lower general and diabetes-specific quality of life than children and adolescents with type 1 diabetes among their healthy peers (Delamater et al., 2018). According to a systematic study, the most critical psychosocial factors influencing the psychological well-being of patients with type 1 and type 2 diabetes include anxiety, melancholy, stress, and diabetes-specific discomfort (McCoy & Theeke, 2019). In Zambia, individuals who had diabetes of both types reported increased levels of discomfort (33.8±27.2) and substantial feelings of sadness (10.8%) (Given et al., 2016). Diabetes can be an unpredictable and challenging condition.

A person's reaction to a stressor is influenced by feelings of threat, vulnerability, and ability to cope rather than the stressful event itself. An individual's stress management approach might be either adaptive or maladaptive. Coping is adaptive when a person employs insufficient or incorrect methods to address the issue or stressor that requires management. Higher levels of maladaptive coping were associated with anxiety, depressive symptoms, and worse quality of life (Knowles et al., 2020; Yasui-Furukori et al., 2019). Based on an investigation of youth with type 1 diabetes, they use maladaptive coping strategies such as avoidance. Diabetic teenagers typically avoid insulin injections (Hapunda et al., 2015).

Daily self-management care includes monitoring blood glucose levels regularly, adjusting and delivering insulin, engaging in physical activity, eating nutritious foods, and controlling sleep duration and blood glucose levels. Aside from the medical, social, and financial demands of managing self-care to ensure its success, emotional concerns frequently occur and contribute considerably to the burden of life for persons with diabetes (Hilliard et al., 2019; McMorrow et al., 2022; Mohamed et al., 2022). Diabetes treatment avoids acute and chronic problems while increasing life and psychological well-being (Dewi et al., 2022). Diabetes patients frequently experience stress as a result of the load associated with diabetes management. Diabetes care is related to diabetes-specific stress, which is not surprising (Bronner et al., 2020; Tang et al., 2022). Diabetes-specific stress is characterized as emotional stress

https://doi.org/10.35568/abdimas.v7i3.4886

associated with continuous worry, burden, and anxiety when managing a chronic disease (Schmitt et al., 2022)

Personal coping mechanisms are typically divided into two categories: problem-centered and emotional. Problem-centered coping approaches try to change the source of stress, whereas emotional coping focuses on controlling the emotions that occur in reaction to perceived stress triggers. Both make nervous people healthier, but they are not equally effective at lowering anxiety. People with emotional focus, social support, and attention to obstacles reported better self-care behaviors for diabetes than those with avoidance-focused coping (Albai et al., 2017). Although some emotional and behavioral methods are considered maladaptive, in situations where stresses cannot be avoided, such as diabetes self-care, maladaptive emotional and behavioral strategies may be effective solutions (Waugh et al., 2020). Such distractions, religion, and coping techniques do not reduce pressures but add to higher well-being and moods (Waugh et al., 2020). This can help with diabetes treatment since it empowers individuals and leads to finding meaning and purpose in the illness.

Self-efficacy, a person's confidence in their capacity to achieve specific goals or manage a situation, has been linked to diabetes outcomes (Hurst et al., 2020). A study discovered a positive association between self-efficacy and self-care habits (e.g., adherence to dietary planning and medication) in people with diabetes (Juarez et al., 2022). In addition, higher levels of self-efficacy are linked to fewer melancholy and anxiety and a higher quality of life. (Tak et al., 2017).

This study aims to identify coping methods and family empowerment in enhancing self-care management in adults with T2D.

METHOD

This study used a quantitative descriptive design using a total sampling technique, which included all sufferers who participated in PROLANIS activities between February 5 and May 27, 2024. The activities boosted participants' awareness of adaptive coping techniques and disease perspectives in diabetes management. The activities are carried out based on the following stages:

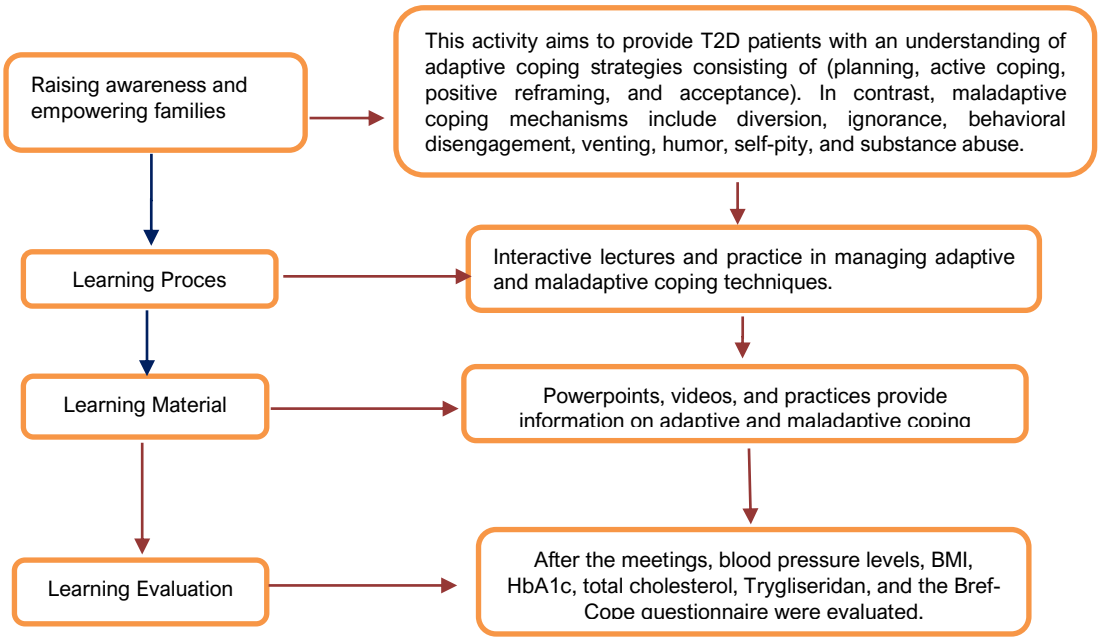

FIGURE 1. Activity Diagram

https://doi.org/10.35568/abdimas.v7i3.4886

RESULT

Demographic Characteristics

Fifty-seven individuals participated in the service. The majority of respondents were between the ages of 40 and 59 29 (50.9%), female 42 (73.7%), with an educational background of elementary-middle school 27 (47.4%), living with families 55 (96.5%), having an excessive body mass index 27 (47.4%), tall 41 (71.9%), having BPJS insurance 50 (87.7%), and being housewives 29 (50.9%). The majority had a view of their health, believing that their health is something they feel 17 (29.8%), the majority had suffered from diabetes mellitus for less than five years 40 (70.2%), and some had neither a parental history nor had been detected in prior offspring 32 (56.1%). Table 1 presents demographic data.

TABLE 1. Characteristic Of Respondents

No	Sociodemography	Frequency	Percent (%)
1	Age		
	<40 years old	11	19.3
	40-59 years old	29	50.9
	60-65 years old	7	12.3
	> 65 years old	10	17.5
2	Gender		
	Man	15	26.3
	Woman	42	73.7
3	Education		
	Elementary school- junior high school	27	47.4
	Senior High School	12	21.1
	College	18	31.6
4	Residence Status		
	alone	2	3.5
	With family	55	96.5
5	BMI (Body Mass Index)		
	Thin	2	3.5
	Ideal Body Weight	25	43.9
	Overweight	27	47.4
	Obesity	3	5.3
6	Marital status		
	Married	41	71.9
	Widower/Widow	7	12.3
	Single	9	15.8
7	Health Insurance		
	BPJS	50	87.7
	Without insurance	4	7.0
	Other Health Insurance	3	5.3
8	Job-status		
	Civil servants	6	10.5
	Private sector employee	3	5.3
	Entrepreneur	5	8.8
	Doesn't work	29	50.9
	Etc	14	24.6
9	Smoking Status		
	Yes, smoking	4	7.0

https://doi.org/10.35568/abdimas.v7i3.4886

No	Sociodemography	Frequency	Percent (%)
	No, but I have smoked	10	17.5
	Never smoked one cigarette	43	75.4
10	Family income		
	< 2500.000	34	59.6
	≥ 2500.000	23	40.4
11	Perspectives on health		
	Perceived health status	17	29.8
	Attitude towards health	7	12.3
	adherence of patients to self-management	14	24.6
	Choice 1,2	4	7.0
	Choice 1,3	4	7.0
	Choice of all (1,2,3)	11	19.3
12	Long-Term Diabetes Sufferer		
	≤ 5 years	40	70.2
	>5 years	17	29.8
13	Family History		
	there are (parents, brothers, sisters, or own children)	22	38.6
	yes (grandfather, aunt, uncle, or first cousin)	3	5.3
	Nothing	32	56.1
	Total	57	100.0

Increasing Information and Training Adaptive Coping Strategies Among T2D Patient

The activities include the preparation phase, blood pressure checks, laboratory tests, information collection, and meeting evaluation with the Bref-Cope-28 questionnaire. Pictures of implementation efforts are included below.

FIGURE 2. Implementation Of Blood Pressure Checks And Laboratories

https://doi.org/10.35568/abdimas.v7i3.4886

FIGURE 3. Increasing Information And Practice For Adaptive Coping

FIGURE 4. Evaluation Using The Bref-Cope-28 Questionnaire

Results of Measurements of Blood Pressure, Body Mass Index, Laboratories

The results of assessing the respondents' blood pressure and BMI are presented below.

TABLE 2. Results Of Blood Pressure, Bmi, And Laboratory Examination

Blood Pressure	Frequency	Percent	Frequency	Percent
≤ 120/80 mmHg (Normal)	8	14,1	16	28.1
120-139/80-89 mmHg (Prehipertensi)	12	21	12	21.1
140-159/90-99 mmHg (Hypertension Stage 1)	22	38.6	16	28.1
≥ 169/100 mmHg (Hypertension Stage 2)	15	26,3	13	22.8

https://doi.org/10.35568/abdimas.v7i3.4886

Total	57	100.0	57	100.0
Body Mass Index				
18,5-25 (Normal)	22	38,6	36	63.2
25-27 (Overweight)	19	33,4	9	15.8
>27 (Obese)	16	28	12	21.1
Total	57	100.0	57	100.0
HbA1c				
<5,7% (Normal)	2	3.5	2	3.5
5,7-6,4 % (Prediabetes)	24	42.1	24	42.1
> 6,5% (Diabetes)	31	54.4	31	54.4
Total	57	100.0	57	100.0
Total cholesterol				
< 200 (good)	20	35.1	20	35.1
200-239 (Be alert)	21	36.8	21	36.8
> 240 (Danger)	16	28.1	16	28.1
Total	57	100.0	57	100.0
Triglycerides				
<200 (good)	42	73.7	42	73.7
200-400 (Be alert)	10	17.5	10	17.5
>400 (Danger)	5	8.8	5	8.8
Total	57	100.0	57	100.0

Table 2 shows that blood pressure, BMI, and laboratory results were taken in February and May 2024. The table shows that the number of people with stage 1 hypertension reduced from 22 (38.6%) to 16 (28.1%) after the activity was implemented, while the number of people with stage 2 hypertension decreased from 15 (26.3%) to 13 (22.8%). Normal BMI increased from 22 (38.6%) to 36 (63.2%), overweight from 19 (33.4%) to 9 (15.8%), and obese from 16 (28%) to 12 (21.1%).

Bref-Cope Measurement Results

Table 5 shows that the majority of respondents have well-focused coping (40 respondents, 70.2%), can handle emotions well (52 respondents, 91.2%), and can overcome avoidance (33 respondents, 57%).

TABLE 3. Bref-Cope Measurement Results

No	BREF-COPE	Frequency	Percent	Mean	Std Dev
1	Focusing on the Problem				
	Well	40	70,2	2,70	0,462
	Enough	17	29,8		
	Less	0	0		
	Total	57	100		
2	handle emotions				
	Well	52	91,2	2,91	0,285
	Enough	5	8,8		
	Less	0	0		
	Total	57	100		

https://doi.org/10.35568/abdimas.v7i3.4886

No	BREF-COPE	Frequency	Percent	Mean	Std Dev
3	Can overcome avoidance				
	Well	33	57,9	2,58	0,498
	Enough	24	42,1		
	Less	0	0		
	Total	57	100		

DISCUSSION AND RECOMMENDATION

The present investigation was conducted to analyze the coping strategies used by T2D patients. According to the study, they typically have efficient coping mechanisms. This implies that most people with diabetes who engaged in PROLANIS activities used adaptive coping strategies, with 70.2% focusing on problems, 91.2% dealing with emotions, and 57.9% dealing with avoidance efficiently. Family empowerment is one factor that influences coping strategies. Muflihah's cross-sectional descriptive study of 96 respondents found a significant link between family support and coping skills (p-value = 0.004, <0.05). This indicates that family support has an essential influence on individuals' coping skills with type 2 diabetes (Muflihah, 2019).

Problem-solving behaviors include active coping, informational support, planning, and positive reframing. High scores indicate coping strategies intended to change stressful experiences. High scores demonstrate psychological strength, tenacity, and a practical problem-solving approach, which predicts positive outcomes. Emotional management is characterized by breathing, emotional support, humor, acceptance, self-blame, and religion. High scores indicate coping strategies for managing emotions in challenging conditions. High or low scores are not always associated with psychological well-being or illness, but they can contribute to more thorough descriptions of respondents' coping strategies. Avoidance Coping Self-disorder symptoms include denial, substance addiction, and disengagement behavior. A high grade indicates a physical or cognitive attempt to avoid the stressor. Low scores often indicate adaptive coping (Adugnew et al., 2024).

Family empowerment is critical for chronic disease patients because it allows them to adapt effectively to their issues. Family empowerment can include physical and psychological assistance, allowing patients to develop adaptive coping mechanisms in response to challenges. An individual with adaptive coping mechanisms can approach issues in a good way, whereas an individual with maladaptive coping mechanisms can develop psychiatric illnesses. A review by Stepanian et al. indicated that empowerment has multiple components, including 1) patient engagement and understanding of their position; 2) patients developing sufficient information to interact with their healthcare professionals; 3) patient skills; and 4) a supportive environment (Stepanian et al., 2023).

According to the results of laboratory tests in Table 2, the HbA1c, total cholesterol, and triglyceride levels did not drop. Family empowerment is one way to overcome family health issues on their own. However, health workers may find it challenging to empower families if they lack communication skills and a broad awareness of health issues. Health practitioners use family empowerment to increase communication skills, problem-solving abilities, conflict resolution skills (when dealing with individuals and families), and self-care management skills (Luthfa & Ardian, 2019).

Family empowerment is a dynamic process involving the family, and its implementation necessitates using an intervention framework. Family empowerment has a broad target scope. Family empowerment helps families through the process of change that will be carried out, builds family resilience and adaptability, explores and increases family potential, family roles, and functions, mediates family-

https://doi.org/10.35568/abdimas.v7i3.4886

centered parenting relationships, and family competence in managing health problems, as well as fostering and helping families moving towards independence (Graves & Shelton, 2007; McNay et al., 2008; Whitley et al., 2011; Yu et al., 2022). Family empowerment affects all family members, including parents and children. Nurses or health workers seek to identify and develop the family's potential. Families with chronic diseases are empowered by providing accurate and thorough information about medical symptoms and treatment management, putting empathy first, and demonstrating genuine concern. This can help families cope with chronic illnesses and care for ailing family members. It is difficult to predict the prognosis of diabetes mellitus, although multiple prior research has found that poor self-care is a significant influence. As a result, it is critical to educate families on how to care for themselves when dealing with T2D patients. Family empowerment for T2D patients focuses on two key aspects: interactive self-care management between families and nurses and programs that regard families as partners. Diabetes patients are empowered by enhancing their knowledge, skills, competencies, and family resources (Luthfa & Ardian, 2019; Rosiyatul, 2018).

CONCLUSION

Based on the research findings, most Prolanis participants had effective coping techniques, albeit the results varied, beginning with focusing on difficulties and overcoming avoidance. This demonstrates that most T2D patients have adjusted to their medical conditions. This is inversely proportional to laboratory HbA1c, total cholesterol, and triglyceride results. This indicates that the patient's self-care management is ineffective. T2D patients require assistance in managing self-care, one of which is the vital role of the family. Active family empowerment initiatives are required among patients, health staff, and families to enhance health and reduce complications in T2D patients. Patients cannot manage their care; family participation in family empowerment initiatives is critical.

ACKNOWLEDGMENTS

The author would like to express gratitude to the Kahuripan Community Health Center for giving researchers and teams the chance to conduct activities in their area of expertise and for all patients, as well as to the staff of Bakti Tunas Husada University, particularly the research education and community service section, which supported this service activity. Individuals with diabetes who are willing to participate in this activity and who are members of PROLANIS.

REFERENCES

Adugnew, M., Fetene, D., Assefa, T., Kedir, S., Asmamaw, K., Feleke, Z., Gomora, D., & Mamo, H. (2024). Diabetes-related distress and its associated factors among people with type 2 diabetes in Southeast Ethiopia: a cross-sectional study. *BMJ Open*, *14*(1), 1–7. https://doi.org/10.1136/bmjopen-2023-077693

Albai, A., Sima, A., Papava, I., Roman, D., Andor, B., & Gafencu, M. (2017). Association between coping mechanisms and adherence to diabetes-related self-care activities: A cross-sectional study. *Patient Preference and Adherence*, *11*, 1235–1241. https://doi.org/10.2147/PPA.S140146

Bronner, M. B., Peeters, M. A. C., Sattoe, J. N. T., & Van Staa, A. L. (2020). The impact of type 1 diabetes on young adults' health-related quality of life. *Health and Quality of Life Outcomes*, *18*(1), 1–7. https://doi.org/10.1186/s12955-020-01370-8

Chan, J., Demelo, M., Gingras, J., & Gucciardi, E. (2015). Challenges of Diabetes Self-Management in Adults Affected by Food Insecurity in a Large Urban Centre of Ontario , Canada. *Hindawi Publishing Corporation*, *2015*, 9.

Debussche, X., Balcou-debussche, M., Besançon, S., & Traoré, S. A. (2009). Challenges to diabetes self-

https://doi.org/10.35568/abdimas.v7i3.4886

management in developing countries. *Diabetes Voice*, *12*(January), 4.

Delamater, A. M., de Wit, M., McDarby, V., Malik, J. A., Hilliard, M. E., Northam, E., & Acerini, C. L. (2018). Guidelines 2018: Psychological care of children and adolescents with type 1 diabetes. *Pediatric Diabetes*, *19*, 237–249. https://doi.org/10.1111/pedi.12736

Dewi, R., Panduragan, S. L., Umar, N. S., Melinda, F., & Budhiana, J. (2022). The Effect of Religion, Self-Care, and Coping Mechanisms on Quality of Life in Diabetes Mellitus Patients. *Jurnal Keperawatan Padjadjaran*, *10*(1), 58–65. https://doi.org/10.24198/jkp.v10i1.1971

Given, H., Amina, A., Frans, P., & Fons, van de V. (2016). Validity and reliability of the Zambian version of the Problem Areas in Diabetes (PAID) scale : a triangulation with cognitive interviews : research article. *South African Journal of Diabetes and Vascular Disease*, *13*(1), 4–12.

Graves, K. N., & Shelton, T. L. (2007). Family empowerment as a mediator between family-centered systems of care and changes in child functioning: Identifying an important mechanism of change. *Journal of Child and Family Studies*, *16*(4), 556–566. https://doi.org/10.1007/s10826-006-9106-1

Hapunda, G. (2022). Coping strategies and their association with diabetes specific distress , depression and diabetes self - care among people living with diabetes in Zambia. *BMC Endocrine Disorders*, 1–11. https://doi.org/10.1186/s12902-022-01131-2

Hapunda, G., Abubakar, A., van de Vijver, F., & Pouwer, F. (2015). Living with type 1 diabetes is challenging for Zambian adolescents: Qualitative data on stress, coping with stress and quality of care and life. *BMC Endocrine Disorders*, *15*(1), 1–12. https://doi.org/10.1186/s12902-015-0013-6

Hilliard, M. E., Wit, M. De, Wasserman, R. M., Butler, A. M., Weissberg-benchell, J., & Anderson, B. J. (2019). 1 diabetes : Strategies for diabetes care providers. *Pediatric Diabetes*, *19*(3), 534–543. https://doi.org/10.1111/pedi.12575.Screening

Hurst, C. P., Rakkapao, N., & Hay, K. (2020). Impact of diabetes self-management, diabetes management self-efficacy and diabetes knowledge on glycemic control in people with Type 2 Diabetes (T2D): A multicenter study in Thailand. *PLoS ONE*, *15*(12 December), 1–14. https://doi.org/10.1371/journal.pone.0244692

International Diabetes Federation. (2021). International Diabetes Federation. In *Diabetes Research and Clinical Practice* (10 edition, Vol. 102, Issue 2). IDF Diabetes Atlas 2021. https://doi.org/10.1016/j.diabres.2013.10.013

Juarez, L. D., Presley, C. A., Howell, C. R., Agne, A. A., & Cherrington, A. L. (2022). The Mediating Role of Self-Efficacy in the Association Between Diabetes Education and Support and Self-Care Management. *Health Education and Behavior*, *49*(4), 689–696. https://doi.org/10.1177/10901981211008819

Knowles, S. R., Apputhurai, P., O'Brien, C. L., Ski, C. F., Thompson, D. R., & Castle, D. J. (2020). Exploring the relationships between illness perceptions, self-efficacy, coping strategies, psychological distress and quality of life in a cohort of adults with diabetes mellitus. *Psychology, Health and Medicine*, *25*(2), 214–228. https://doi.org/10.1080/13548506.2019.1695865

Luthfa, I., & Ardian, I. (2019). Effects of Family Empowerment on Increasing Family Support in Patients with Type-2 Diabetes Mellitus. *Nurse Media Journal of Nursing*, *9*(1), 58–68. https://doi.org/10.14710/nmjn.v9i1.22501

McCoy, M. A., & Theeke, L. A. (2019). A systematic review of the relationships among psychosocial factors and coping in adults with type 2 diabetes mellitus. *International Journal of Nursing Sciences*, *6*(4), 468–477. https://doi.org/10.1016/j.ijnss.2019.09.003

McMorrow, R., Hunter, B., Hempler, N. F., Somasundaram, K., Emery, J., & Manski-Nankervis, J. A. (2022). People with type 2 diabetes' experiences of emotional support in Australian general practice: a qualitative study. *BJGP Open*, *6*(4), 1–11. https://doi.org/10.3399/BJGPO.2022.0079

McNay, E. C., Ong, C. T., McCrimmon, R. J., Cresswell, J., Bogan, J. S., & Sherwin, R. S. (2008). The Application of Behavior Change Theory to Family-Based Services: Improving Parent

https://doi.org/10.35568/abdimas.v7i3.4886

Empowerment in Children's Mental Health. *Bone*, *23*(1), 1–7. https://doi.org/10.1007/s10826-009-9317-3.The

Mohamed, N. F., Ahmad Tajuddin, N. A., Mohammad Nizam, F. H., Zakaria, N., & Mohd Amin, N. A. F. (2022). The Relationships between Depression and Physical Activity with Medication Adherence among Patients with Type 2 Diabetes Mellitus in Klang Valley, Malaysia. *International Journal of Academic Research in Business and Social Sciences*, *12*(5). https://doi.org/10.6007/ijarbss/v12-i5/12973

Muflihah, U. et al. (2019). COPING MECHANISM AND ITS RELATED FACTORS AMONG DIABETES MELLITUS PATIENTS. *Indonesian Journal of Global Health Research*, *2*(4), 1137–1144. https://doi.org/10.37287/ijghr.v2i4.250

Pastakia, S. D., Pekny, C. R., Manyara, S. M., & Fischer, L. (2017). Diabetes in sub-Saharan Africa - from policy to practice to progress: Targeting the existing gaps for future care for diabetes. *Diabetes, Metabolic Syndrome and Obesity*, *10*, 247–263. https://doi.org/10.2147/DMSO.S126314

Rosiyatul, A. (2018). *Pengaruh Family Empowerment Terhadap Family Support Pada*. *0731108102*, 1–85.

Roy, K., Iqbal, S., Gadag, V., & Bavington, B. (2020). Relationship Between Psychosocial Factors and Glucose Control in Adults With Type 2 Diabetes. *Canadian Journal of Diabetes*, *44*(7), 636–642. https://doi.org/https://doi.org/10.1016/j.jcjd.2020.01.005

Schmitt, A., Kulzer, B., Reimer, A., Herder, C., Roden, M., Haak, T., & Hermanns, N. (2022). Evaluation of a stepped care approach to manage depression and diabetes distress in patients with type 1 diabetes and type 2 diabetes: Results of a randomized controlled trial (ECCE HOMO study). *Psychotherapy and Psychosomatics*, *91*(2), 107–122. https://doi.org/10.1159/000520319

Shibeshi, M. S., Daba, A. K., Meiso, K. M., & Tadesse, B. T. (2022). Glycemic control among children and adolescents with diabetes in Southern Ethiopia: a cross-sectional study. *BMC Endocrine Disorders*, *22*(1), 1–7. https://doi.org/10.1186/s12902-022-01070-y

Stepanian, N., Larsen, M. H., Mendelsohn, J. B., Mariussen, K. L., & Heggdal, K. (2023). Empowerment interventions designed for persons living with chronic disease - a systematic review and meta-analysis of the components and efficacy of format on patient-reported outcomes. In *BMC Health Services Research* (Vol. 23, Issue 1). BioMed Central. https://doi.org/10.1186/s12913-023-09895-6

Tak, Y. R., Brunwasser, S. M., Lichtwarck-Aschoff, A., & Engels, R. C. M. E. (2017). The Prospective Associations between Self-Efficacy and Depressive Symptoms from Early to Middle Adolescence: A Cross-Lagged Model. *Journal of Youth and Adolescence*, *46*(4), 744–756. https://doi.org/10.1007/s10964-016-0614-z

Tang, X., Lin, X., Li, X., & Zhou, Z. (2022). Interpretation of the management of type 1 diabetes in adults: a consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD) in 2021. *National Medical Journal of China*, *102*(16), 1139–1147. https://doi.org/10.3760/cma.j.cn/112137-20211011-02244

Waugh, C. E., Shing, E. Z., & Furr, R. M. (2020). Not all disengagement coping strategies are created equal: positive distraction, but not avoidance, can be an adaptive coping strategy for chronic life stressors. *Anxiety, Stress and Coping*, *33*(5), 511–529. https://doi.org/10.1080/10615806.2020.1755820

Whitley, D. M., Kelley, S. J., & Campos, P. E. (2011). Perceptions of Family Empowerment in African American custodial grandmothers raising grandchildren: Thoughts for research and practice. *Families in Society*, *92*(4), 383–389. https://doi.org/10.1606/1044-3894.4148

Yasui-Furukori, N., Murakami, H., Otaka, H., Nakayama, H., Murabayashi, M., Mizushiri, S., Matsumura, K., Tanabe, J., Matsuhashi, Y., Yanagimachi, M., Nakamura, K., Daimon, M., & Sugawara, N. (2019). Coping behaviors and depressive status in individuals with type 2 diabetes mellitus. *Annals*

https://doi.org/10.35568/abdimas.v7i3.4886

of General Psychiatry, *18*(1), 1–8. https://doi.org/10.1186/s12991-019-0235-5

Young-Hyman, D., De Groot, M., Hill-Briggs, F., Gonzalez, J. S., Hood, K., & Peyrot, M. (2016). Psychosocial care for people with diabetes: A position statement of the American diabetes association. *Diabetes Care*, *39*(12), 2126–2140. https://doi.org/10.2337/dc16-2053

Yu, D. S. F., Li, P. W. C., Li, S. X., Smith, R. D., Yue, S. C. S., & Yan, B. P. Y. (2022). Effectiveness and Cost-effectiveness of an Empowerment-Based Self-care Education Program on Health Outcomes among Patients with Heart Failure: A Randomized Clinical Trial. *JAMA Network Open*, *5*(4), E225982. https://doi.org/10.1001/jamanetworkopen.2022.5982

https://doi.org/10.35568/abdimas.v7i3.4886