

Impact of home care counseling on the quality of life of people with Diabetes Mellitus

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ABSTRACT

Introduction: Diabetes mellitus is a chronic disease that requires long-term management to control blood sugar levels and prevent complications. The quality of life of diabetics is often affected by this disease, both physically, psychologically, and socially. Home care counseling has been one of the interventions considered adequate to assist people with diabetes in managing their condition. This study aims to evaluate the impact of home care counseling on the quality of life of people with diabetes mellitus.

Methods: This research is quasi-experimental with a randomized pretest and posttest control group design. Samples are taken from patients' medical records and selected by simple random sampling.

Results: The mean score before the intervention was 60.55 with a standard deviation of 2.605, which increased to 71.35 with a standard deviation of 4.107 after the intervention. Statistically, there is a difference in quality of life before and after counseling with a value of $p = 0.000$ ($p < 0.05$), which means that home care counseling is effective for DM sufferers to improve the quality of life of DM sufferers.

Conclusions: Home care counseling significantly impacts the quality of life of people with diabetes mellitus. These interventions can improve the sufferer's self-management and provide the support needed to overcome the challenges faced in daily life. Therefore, home care counseling is recommended as part of comprehensive management for people with diabetes mellitus.

Keywords: diabetes mellitus; home care counseling; quality of life.



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INTRODUCTION

Diabetes mellitus is a chronic metabolic disease characterized by hyperglycemia due to insulin deficiency, insulin resistance, or both. This condition requires long-term management to control blood sugar levels and prevent serious complications such as cardiovascular disease, nephropathy, neuropathy, and retinopathy (Suprpto, [2024](#)). In Indonesia, the Prevalence of diabetes continues to increase along with changes in people's lifestyles and diets that are increasingly unhealthy. Diabetes management focuses on the medical aspect and involves lifestyle changes and psychosocial support. Effective management of diabetes requires the active participation of the sufferer in dietary regulation, physical activity, adherence to medication, and regular monitoring of blood sugar levels (Suranta Ginting, Ihsan Kamaruddin, and Lontaan, [2024](#)). However, many people with diabetes face difficulties in carrying out this self-management due to a lack of knowledge, motivation, and support from the surrounding environment. The quality of life of diabetics is often negatively affected by this disease. Physical aspects, such as decreased energy and increased risk of complications, and psychological aspects, such as stress and anxiety, can reduce overall well-being. In addition, inadequate social support can worsen this condition. Therefore, interventions that can help sufferers manage diabetes and improve their quality of life are needed (Saputra *et al.*, [2023](#)).

The disease is characterized by impaired glucose metabolism caused by insulin deficiency or resistance, resulting in chronic hyperglycemia. Diabetes mellitus not only causes physical complications such as neuropathy, nephropathy, and cardiovascular disease but also has a significant impact on the overall quality of life of sufferers, including psychological and social aspects (Blázquez *et al.*, [2022](#)). The quality of life of people with diabetes is often compromised by complex disease management, the need for regular blood sugar monitoring, as well as adjustments to diet and physical activity. In addition, psychological stress due to a diagnosis of diabetes and the risk of long-term complications can reduce the mental and emotional well-being of sufferers (Jyotsna *et al.*, [2023](#)). Educative interventions and psychological support can provide significant benefits for people with diabetes. However, research on the specific impact of home care counseling on quality of life is limited. Home care counseling has become one approach that is increasingly gaining attention in diabetes mellitus management. This counseling involves providing education, support, and guidance directly in the patient's home environment, allowing for more personalized and focused interventions on individual needs. Through home care counseling, people with diabetes can better understand their condition, improve treatment adherence, adopt a healthy lifestyle, and reduce the risk of complications (Oluchi *et al.*, [2021](#)).

Home care counseling is a practical approach to helping people with diabetes mellitus. Through this counseling, patients get ongoing education and support regarding diabetes management, which includes dietary regulation, physical activity, drug use, and blood sugar monitoring (Powers *et al.*, [2021](#)). In addition, counseling also provides psychological support that can help sufferers cope with stress and increase motivation in undergoing the management of their illness. Home care counseling is one approach that has evolved as an effective intervention to support diabetes mellitus management. This counseling involves providing health education, guidance on disease management, and psychological support tailored to the individual needs of sufferers. With a comprehensive approach, home care counseling aims to improve the self-management ability of diabetics, which in turn is expected to improve their quality of life. However, there are still limitations in research on the extent to which home care counseling can have a positive impact on the quality of life of people with diabetes mellitus. Therefore, this study aims to evaluate the effect of home care counseling on the quality of life of people with diabetes mellitus, using comprehensive quality-of-life measurement instruments such as WHOQOL-BREF. The results of this study are expected to provide strong scientific evidence to support the implementation of home care counseling as part of the comprehensive management of diabetes mellitus.

MATERIALS AND METHODS

This is Quasi-Experimental research with a Randomized Pretest and Posttest Control Group Design. The population in this study was all Diabetes mellitus patients. The study sample was some of the Diabetes mellitus patients who were recorded in the medical record and met the inclusion criteria, namely Diabetes mellitus patients who had a medical record of the puskesmas who did not experience complications of other diseases, were > 40 years old, had never received home care counseling services, and were willing to be sampled. The intervention group was assigned to patients with Diabetes mellitus, and the control group was assigned to patients with Diabetes mellitus. This study used secondary data sources and primary data. Samples are taken from patients' medical records and selected by simple random sampling. First, respondents were given informed consent in the form of consent as a sample and an explanation of how to fill out the questionnaire, then collected questionnaire data (pretest) and recorded clinical outcomes (GDP / GDS levels), then counseling (treatment) was carried out 6 (six) times about disease, lifestyle, and drugs every 1 (one) week for 6 (six) weeks after that measurements were carried out for the second time (posttest). The data that has been collected is then processed manually and computerized using Excel programs and SPSS v 25 analysis software. Data analysis was carried out using a difference test of two dependent means and a difference test of two independent means, which were then presented in the form of a table and frequency distribution.

RESULTS

Table 1. Differences in respondents' domain scores in the intervention group and control group during the pretest and post-test

Group	Pretest		Posttest	
	Mean rank	p-value	Mean rank	p-value
Physical health	23.15	0.136	26.00	0.002
	17.85		15.00	
Psychological conditions	21.43	0.604	28.70	0.000
	19.58		12.30	
Social relationships	20.85	0.842	29.55	0.000
	20.15		11.45	
Environmental conditions	16.88	0.047	25.28	0.008
	24.13		15.73	

The domain one analysis showed differences in domain one scores in the intervention and control groups after counseling. The results of the statistical tests showed that when the pretest obtained p value = 0.136 ($p > 0.05$), there was no difference between the intervention group and the control group. After counseling, the results of statistical tests during the posttest obtained a p = 0.002 ($p < 0.05$), showing a significant difference in the average score of domain one between the intervention group and the control group of 11.00. In domain 2 (psychological conditions), there were differences in scores between the intervention group and the control group after counseling. The results of the statistical tests showed that when the pretest obtained p value = 0.604 ($p > 0.05$), there was no difference between the intervention group and the control group. After counseling, the results of statistical tests during the posttest obtained a value of p = 0.000 ($p < 0.05$), showing a significant difference in the average domain two scores between the intervention and control groups of 16.40. Social relationships showed differences in domain scores of 3 respondents in the intervention group and the control group after counseling. The results of the statistical tests showed that when the pretest obtained p value = 0.842 ($p > 0.05$), there was no difference between the intervention group and the control group. After counseling, the results of statistical tests during the posttest obtained a p = 0.000 ($p < 0.05$), showing a significant difference in the average domain three scores between the intervention and control groups of 18.10. Environmental conditions occurred in differences in domain scores of 4 respondents in the intervention and control groups after counseling. The results of the statistical

tests showed that when the pretest obtained a value of $p = 0.047$ ($p > 0.05$), there was no difference between the intervention group and the control group. After counseling, the results of statistical tests during the post-test obtained p value = 0.008 ($p < 0.05$), which showed a significant difference in average domain four scores between the intervention and control groups of 9.55. This shows an improvement in the quality of life in the intervention group, meaning that counseling is essential for people with diabetes mellitus.

DISCUSSION

Researchers revealed that home care counseling has a significant positive impact on the quality of life of people with diabetes mellitus. These interventions can improve the sufferer's self-management and provide the support needed to overcome the challenges faced in daily life. Hospitalized patients with HF had low confidence regarding regular exercise, salt restriction, and flu vaccination. The results also suggest that patient-physician communication affects patient confidence (Hashimoto *et al.*, [2023](#)). social media strongly support the integration of prescribed therapy into daily routine. The influence of the child with diabetes on parental decisions shows that diabetes education needs to become child-centered and that the parent-child relationship should be considered as a crucial element for therapy effectiveness. Practice implications Online parenting groups provide mental support in coping with diabetes and would serve as a primary non-medical information source; the healthcare staff must be supportive or even encouraging when parents join such groups (Tesch, Prónay, and Buzás, [2024](#)). We believe that this shared approach to care will prevent preeclampsia and its attendant short- and long-term morbidity in patients identified as at risk for developing this disorder (Roberts *et al.*, [2023](#)).

Most adults with a chronic illness take an active role in managing their symptoms, but some conceal or ignore symptoms until the frequency, severity, bothersomeness, or duration increases (Riegel *et al.*, [2024](#)). Evidence on non-pharmacological interventions for adolescents with type 1 diabetes is unclear (Lee *et al.*, [2024](#)). Patients with apathy symptoms showed lower quality of life and lower physical and cognitive performance. They also had a higher risk of death. These findings highlight the need for awareness of apathy symptoms in older kidney patients (Voorend *et al.*, [2024](#)). Future studies should explore patient attitudes and the cost-effectiveness of this approach. The Chinese Geriatric Endocrine Society sponsors funding (Luo *et al.*, [2023](#)). Adding pharmacist-led home BP telemonitoring to usual care achieves better BP control than usual care alone (Baral *et al.*, [2023](#)). Telemedicine can effectively manage chronic patients, such as those with diabetic ulcers, by reducing the burden on resources and maintaining service quality. However, healthcare professionals must be well-versed in medico-legal implications to adhere to legal and ethical guidelines, protect patient privacy, and maintain high standards of care while using telemedicine for chronic condition treatment (Nittari *et al.*, [2023](#)).

Religious, social, cultural, domestic, and occupational activities provide opportunities to perform physical activities. Furthermore, harnessing routinely available healthcare resources and using technology-based interventions can promote physical activity (Arsh *et al.*, [2023](#))—the overall self-care practices after interventions were improved. Therefore, patient-centered diabetes self-care management education could improve diabetes patients' management in their self-care activities (Gurmu and Dechasa, [2023](#)). Nurse practitioners must manage the screening, diagnosis, and treatment of T2D among Indigenous youth living remotely (DuGray and Duff, [2023](#)). they specified and enriched the conceptualization of making care fit through practice examples. We observed patient-clinician collaboration in exploring patients' context and by responsively changing, adapting, or maintaining care plans (Kidānemariam *et al.*, [2024](#)). transformation in the healthcare sector has significantly reduced healthcare expenditures and cost savings concerning clinical and pharmacy services, using diabetes mellitus as an example (Alshammari *et al.*, [2023](#)). teaching and counseling provided by nurses, physicians, dietitians, and pharmacists should focus on improving adherence to diabetes self-care activities to attain reasonable glycaemic control (Alor *et al.*, [2023](#)).

This is the first RCT to examine the effectiveness of SDM on weight loss, lifestyle change, metformin use, and other patient-reported outcomes in participants with a GDM history at risk of developing diabetes (Madievsky *et al.*, 2023). The emergent evidence for resilience among older persons in this setting is essential for informing health system interventions to improve the quality of life for PLWD. The views of the elderly should be explicitly considered in policies designed to enhance the self-management of chronic health conditions (Hinds, Greaves, and Harewood, 2023). The most implemented elements of care coordination were regular communication and monitoring. In contrast, coordination between healthcare teams and the community, individualized planning, and caregiver involvement was less often reported (Northwood *et al.*, 2023). The association between Type 1 Diabetes Mellitus (T1DM) and obesity (Ob) is no longer unexpected due to unhealthy lifestyles, primarily in adolescents (Calella *et al.*, 2023). Hypoglycemia from diabetes treatment causes morbidity and lower quality of life, and prevention should be routinely addressed in clinical visits (Pilla *et al.*, 2023). Many people with diabetes assessed were willing to pay for clinical services at a reasonable price. Although most patient variables affected their WTP choices, none of the variables predicted the maximum amount they were willing to pay. For possible remuneration for clinical services, community pharmacists should continue to grow their practices and stay current with patient care (Jackson, Isah, and Arikpo, 2023). The increased severity of periodontitis in patients with diabetes, in conjunction with the high level of cortisol seen in patients with periodontitis, especially those with diabetes, emphasize the dysregulation of the immunoinflammatory system. Clinical significance It is essential to add all this data to our dental practice to cover patient health with a broader landscape (Portes *et al.*, 2023).

CONCLUSIONS

It was concluded that home care counseling affected the intervention group's physical health, psychological conditions, social relationships, and environmental conditions. Home care counseling for diabetes mellitus patients is essential as a health service. Home care counseling that is carried out regularly and continuously to diabetes mellitus patients can provide motivation and lifestyle modifications so that diabetes mellitus patients can accept their disease and be wiser in living their disease to improve their quality of life and prevent complications. The Health Office should provide training to counselors not only in terms of managing diabetes mellitus but also in terms of handling psychotherapeutic problems for people with diabetes mellitus. Similar research needs to be done, namely, the effect of home care counseling on the role of family members in improving the quality of life of people with diabetes mellitus. This study can be used as a basis for further research on assessing the effectiveness of home care counseling on routine blood sugar control and diet regulation in patients with diabetes mellitus.

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