

## Impact of Diabetes Self-Management Improvement on Basic Activities of Daily Living Among Adult Patients in Baghdad: A Cross-Sectional Study

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### Abstract

**Introduction:** Diabetes mellitus is a metabolic illness that entails independence as an acute part of an effective disease mechanism. Enhancing the standards of life and wellness is the intent while lowering the substantial financial burden associated with the condition.

**Methods:** From November 2025 to March 2026, the Specialized National Diabetes Center and Al-Yarmook Teaching Hospital conducted a descriptive cross-section study. Three hundred patients were an intentional sample. Three sections of a structured survey called the Diabetes Self-Management Questionnaire (DSMQ) elements, the Activities of Daily Living (ADL) checklist, and socio demographic and clinical history—was used to gather data. The review concentrated on methods for incorporating glycemic control, physical activity, foot care, and stress management into regular daily activities. Descriptive and inferential statistics were employed to evaluate the questionnaire's validity and reliability for this analysis.

**Results:** According to the study's findings, the sample consisted primarily of female patients with diabetes (60%), with 34% of them being between the ages of 48 and 57. The majority (38%) had been diagnosed with Type 2 diabetes for six to ten years. The results showed that patients' daily activities were severely impacted by their diabetic self-management. Nonetheless, a sizable majority of the sample exhibited high levels of self-management engagement, which displayed a strong, positive correlation with sustained Activity Daily Living function, which was substantially linked to controlling for patients with diabetes (P. less than 0.05).

**Conclusion:** Self-management of diabetes has moderate positive impact on activities on daily living among adult patients with diabetes. According to the study's findings, effective self-management techniques are highly linked to improved functional results, even when diabetic attitudes place a significant load on ADLs.

**Keywords:** Diabetes Mellitus; Self-Management; Activities of Daily Living (ADLs); nursing care; chronic disease management.



## 1. Introduction

Diabetes mellitus is a metabolic illness that entails independence as an acute part of an effective disease mechanism, diabetes is a metabolic illness and complicated chronic disease that is brought on by decreased insulin activity or secretion, or both. Anabolic hormones like insulin have a significant impact on the body's metabolism. The pancreas organ that makes insulin hormone, which facilitates absorption of glucose into our body's cells (Pamungkas et al., 2019).

63 million persons between the ages of 20 and 79 had diabetes in 2019, According to the International Diabetes Federation (IDF), That number is predicted to double throughout the Middle East, Africa, and Asia, reaching 700 million by 2045. 537 million adults, roughly had diabetes in 2021; by 2030, that figure is predicted to rise to 643 million, or 9.3% of the global population (International Diabetes Federation, 2021).

11.1% of adults (1 in 9) have diabetes, conferring to the International Diabetes Federation (IDF) (Magliano et al., 2025), with over 40% of cases being misdiagnosed. This is estimated to increase by 46% to 853 billion individuals (1 in 8 adults) by 2059. Diabetes, which is primarily Type 2, can cause serious consequences if left untreated, placing a heavy strain on both patients and ealthcare infrastructure (Pharr et al., 2014).

Unhealthy lifestyle choices and poor treatment-connect quality of life (HRQL) are main causes growing number of diabetes patients. Cardiovascular disease, renal failure, chronic kidney disease (CKD), nephropathy, neuropathies, retinopathy, and other health issues, such as diabetic ulcers and limb amputations, are among the problems that can arise from poorly managed diabetes. By 2030, diabetes-related expenses are predicted to exceed USD 1.7 trillion per year worldwide (Group, 2002).

According to self-care for diabetes patients entails managing their body and mind in a long-term manner as well as providing guidance and support to enable them to manage themselves. It includes knowledge to maintain personnel health, such as food management, physical exercise, limiting weight, and self-monitoring of glucose because good self-management is important to decrease risks and difficulties to ensure improved health results (Galicia-Garcia et al., 2020).

when a patient's glycemic status is out of control, their quality of life is negatively impacted by their diabetes, which raises the expense of medical care. Standardizing blood glucose monitoring and lowering the likelihood of long-term issues are the goals of self-management (Lyndasari et al., 2018).

Age, obesity, sex, family history, physical inactivity, environmental variables, bad diet, sedentary lifestyle, and genetic factors were all significant risk factors for patients to develop diabetes illnesses (Ahola & Groop, 2013).

Polyuria, polydipsia, weight loss, blurred vision, and polyphagia are warning signs of health issues underlying diabetes. Patients with diabetes who practice high self-management include care surveillance their blood glucose levels in a medical establishment or at home, controlling their daily diet, planning their intake at home, managing their medications, engaging in physical activity, and taking care of their feet. Building relationships with nurses can help diabetic patients and family participants who support them solve problems. However, a lack of knowledge and awareness about diabetes managing leads to emotional stress and a lack of communal support (Miller & DiMatteo, 2013).

Diabetic Self-Management (DSM) is the standard for teaching adult diabetic patients biological, psychological, and social strategies to promote their health. These strategies include eating, exercising, keeping an eye on diabetes control indicators, and taking medication (Nam et al., 2011).

patients with Type 2 Diabetes Mellitus (T2DM), the Diabetes Self-Management Education and Support (DSMES) program can cause information overload because patients find it difficult to incorporate complicated instructions into their daily lives. There is still a gap between clinical advice and practical adherence, which is frequently caused by "diabetes distress resulting in poor long-term adherence. This perceived burden can contribute to patient burnout, relentless self-management demands, anxiety, and suboptimal glycemic control (Kemenkes, 2019).

A crucial gap is "diabetes distress." Clinical inactivity is directly caused by the emotional strain of ongoing self-management expectations. a "knowledge-deficit" framework. Because it treats self-management as a discrete set of activities that conflict with a patient's daily routine, habits, and energies, this approach typically fails (Timuneno et al., 2016).

### 1.1. Objective of the study

1-The study aimed to assess the impact of diabetes self – management improvement on basic activities of daily living among adult patients in Baghdad :

2- Influence of Diabetes Self-Manage on Patient’s Activities of Daily Livings DSMQ and Activities of Daily Livings ADLs

## 2. Methodology

**Study designs and setting** :A descriptive cross-sectional analysis conducted at the Center for Endocrine Diseases and Diabetes and Al-Yarmook Teaching Hospital between November 2025 to March 2026, the goal of determining impact of diabetes self-management improvement on basic daily activities among adult patients in Baghdad . **Study Instruments and sampling** Situation of the study ;The Mustansiriyah University College of Nursing's Institutional formally approved the study procedure. The Specialized Center for Endocrine Diseases and Diabetes, as well as the Ministry of Health and Environment, subsequently approved the data gathering. The researchers used a questionnaire to gauge the variables. following a thorough analysis of pertinent research, which covers everyday life activities and diabetes self-manage. In order to overcome the shortcomings of current questionnaires and arrange for a multidimensional amount of diabetes self-manage behaviors relevant for the regulator of glycaemia in the two main forms of diabetes, Schmitt developed Diabetes Self-Management Questionnaire (DSMQ) in 2013. It also includes the patient's socio demographic characteristics and medical history (Dunstan et al., 2012; Shrivastava et al., 2013). And Activities of Daily Livings (ADLs) Checklist This form developed by Grace Newman which build-up on Katz index of independence. Data Collection Methods ;The information was gathered between November 7th, 2025, and April 17th, 2026. The researchers collected the samples by interview with patients through filling the study questionnaire. **Ethical consideration** :Direct interviews with diabetic patients at the investigation's outpatient clinics were used to collect the data. Every interview lasted roughly ten to fifteen minutes for each sample. **Data analysis::** Using the statistical package of social science (SPSS) version 23.0, The statistical data inquiry that follows techniques are applied to examine and evaluate the study's findings.

### 3. Results

In this study, According to Table (1):revealed that the largest proportion of sample (34%) fell within the 48–57 age range. The majority of patients (60%) were female. The greatest percentage of sample (83%) were married based on their marital status. The largest proportion of patients (83%) were married. 38.7% of the patients, the largest number, had completed elementary school.38.7% of the patients have completed their elementary education. The largest proportion of patients (51%) were housewives based on their occupation

**Table 1** .The participants' demographic variables (N=300).

List	Characteristics	Participants		
		F	%	
1	Age (Groups) M.S ± SD (55.5±10.864)	18- 27 years	6	2.0
		28- 37 years	9	3.0
		38- 47 years	47	15.7
		48- 57 years	102	34.0
		58- 67 years	93	31.0
		≥ 68 years	43	14.3
		Total	300	100
2	Gender M.S ± SD (1.60±0.491)	Male	120	40.0
		Female	180	60.0
		Total	300	100
3	Marital Status M.S ± SD (2.14±0.567)	Single	13	4.3
		Married	249	83.0
		Divorced	21	7.0
		Widowed	17	5.7
4	Education M.S ± SD (2.70±1.302)	Total	300	100
		Read and write	49	16.3
		Primary school graduate	116	38.7
		Middle school graduate	60	20.0
		Secondary school graduate	26	8.7
		Institute\ college graduate	49	16.3
5	Occupation M.S ± SD (3.98±1.275)	Total	300	100
		Jobless	14	4.7
		Employee	39	13
		Free jobs	43	14.3
		Retired	49	16.3
		Housewife	153	51
		Student	2	0.7
Total	300	100		

F= Frequency, %= Percentage, M.S.= Mean of score, SD= Standard deviation, IQD Iraqi Dinars, kg/m<sup>2</sup> = Kilogram/ square mete .

**Table 2.** Mean of Score and Significance for Diabetes Self- Management Questionnaire Items.

(DSMQ) Items.	very much applies to me.	applies to me to a significant extent	applies to me in a certain way.	Not applicable to me	Mean	SD	The relevance
1. I carefully monitor my blood sugar levels.	125	79	64	32	2.99	1.030	HS
2. diet choices make it simple to reach ideal blood sugar levels.	90	111	59	40	2.84	1.003	HS
3. I attend all prescribed doctor's appointments for the treatment of my diabetes.	194	65	25	16	3.46	0.859	HS
4. I take my insulin and other diabetes medications as directed.	244	38	11	7	3.73	0.642	HS
5. I sometime consume a lot of carbohydrate-rich foods or sweets	49	59	104	88	2.77	1.046	HS
6. I use my blood glucose meter to evaluate the value chart and record my blood sugar levels on a regular basis.	82	60	79	79	2.48	1.152	MS
7.I frequently avoid having doctor's appointments for diabetes.	41	42	76	141	3.06	1.076	HS
8. To maintain ideal blood sugar levels, I follow regular physical activity.	34	39	69	158	1.83	1.041	MS
9. I connect fully to my doctor's or diabetes specialist's recommendations for diets.	100	82	76	42	2.80	1.054	HS
10. In order to have effective blood glucose control, I should monitor my blood sugar levels more frequently.	41	52	109	98	2.88	1.018	HS
11. In spite of exercise would help my diabetes, I avoid it.	147	48	63	42	2.00	1.124	MS
12. I frequently forget to take my diabetes medication (such as insulin or pills).	48	55	74	123	2.91	1.108	HS
13. Real "food binges" that aren't created on by hypoglycemia do occur occasionally.	80	89	80	51	2.66	1.049	MS
14. In terms of my diabetic treatment, I ought to visit my doctor more frequently.	135	79	49	37	3.04	1.053	HS
15. I often neglect scheduled exercise.	154	45	63	38	1.95	1.110	MS
16. My diabetes self-care is inadequate.	75	92	84	49	2.36	1.029	MS

**Table 3.** Influence of Diabetes Self-Manage on Patient's Activities of Daily Livings.

DSMQ Score	ADLs Score			Total	Paired t test
	Mild	Moderate	Severe		
Mild	2	18	16	36	t value =4.616
Moderate	18	36	30	84	DF=299
Severe	46	94	40	180	Sign.= 0.000 (HS)
Total	66	148	86	300	

Degree of freedom, Sign.= Significance, DSMQ= Diabetes self-management questionnaire, ADLs= Activities of daily livings

\*Rating of severity (DSMQ) (L= 1- 1.33, M= 1.34- 2.76, H= 2.77-4)

\*\*Rating of severity (ADLs) (L= 1- 1.66, M= 1.67- 3.33, H= 3.34-5)

Table (3) showed that there were high significant statistical differences at  $p < 0.05$  between Diabetes Self-Manage on Patient's Activities of Daily Livings DSMQ and Activities of Daily Livings ADLs, this means that there is severe impact of diabetes self-management on patients' activities of daily livings.

#### 4. Discussion

The prime conclusions of this results were to reduce of risks associated with basic activities of living for diabetic patients, which are further supported by earlier research and literature (Angelidi et al., 2020) part one: Discussion f. The popular of patients (34%) were in the age range of 48 to 57 years. These findings are reliable with studies that demonstrated the self-management of diabetic patients (Scott et al., 2020). Sixty percent of the patients were female. The largest proportion of patients (83%) were married. 83% of the patients were married, which was the greatest number. The greatest proportion of patients (38.7%) These results are consistent with research demonstrating diabetic patients' self-management (Kota & Dinas Kesehatan, 2021). completed elementary school. 83% of the patients were married. The largest proportion of diabetic patients (38.7%) had completed their elementary. According to their occupation: The majority of patients (51%) were housewives. These results are consistent with research that demonstrated self-management (Al Amin, 2017; Hasanah et al., 2021). These findings are also regular with earlier WHO research (World Health Organization, 2025). revealed that 83% of patients had at least one chronic illness. Heart disease (83%), hypertension (57%), rheumatoid arthritis (65%), kidney failure (93.7%), respiratory issues (93.7%), and other chronic diseases (94.3%) were not present in the majority of individuals. These results are consistent with a study (Atashi et al., 2016) that found a higher percentage of patients who self-managed their daily activities. The integrated self-management strategy is a major advancement in the treatment of chronic illnesses. By balancing medical needs with the unchangeable framework of daily living, it tackles the fundamental problem of long-term adherence. Self-care refers to patients' independent actions to preserve health and prevent complications (WANG et al., 2021) . This approach is intrinsically patient-centric because it builds upon the individual's particular routine and environment. These include following dietary recommendations, getting regular exercise, and care an sense on blood sugar levels. The patient's everyday experiences and decisions regarding their disease management are reflected in their self-care. Self-care emphasizes the patient's ability to make assessments on their own, in contrast to self-management, which frequently entails structured professional input (Maina et al., 2023; Sauro & Lewis, 2016). Diabetes self-management using Basic

Activities of Daily Living is a conceptual change toward sustainable, empowered living with a chronic condition, rather than merely a clinical approach. We can improve clinical results, increase quality of life, and shift from a disease-focused to a life-focused approach to diabetes management by making healthful choices the route of least resistance within one's daily routine. Future studies should concentrate on randomized controlled trials that quantify the precise effects of ADL-based .

## 5. Conclusion

The results of this scholarship indicates that moderate positive impact on activities on daily living among adult patients with diabetes. Education programs for nurses and patients to improve daily living skills and knowledge with diabetic patients and support strategy in hospital wards to assist nurses in utilizing it.

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