

# Quality of Lifestyle Status of Patients with Diabetes Mellitus Attending Primary Health Care Centers in Kirkuk City

Marwah Ali Khalaf,  
Hewa Sattar Salih\*

## ABSTRACT

Diabetes mellitus is a state in which the body cannot create enough or any insulin or cannot efficiently utilize the insulin it does make, resulting in elevated blood glucose levels. This study aims to assess the level of quality lifestyle among diabetic patients attending primary health care centers. In this cross-sectional study, 470 diabetic patients were randomly selected from 10 primary health care centers. A specific questionnaire designed by the researcher for proper data collection based on a study of relevant research and literature was used throughout a direct interview with the patients. The questionnaire included two sections: Part One: Describes the sociodemographic characteristics of the patients, including their age, gender, marital status, employment status, and income levels, duration of the D.M., smoking, body mass index (BMI), concomitant other chronic diseases, glycemic control, and management of diabetes). Part two included a number of questions concerning behavioral or lifestyle choices. (Such as daily physical activity, level of independence, environment, psychosocial domain, and spirituality). Data analysis was done using the statistical package for social science (SPSS) version 22.0. The results showed the level of quality of lifestyle higher in male than female and lower in low monthly income patients and low level education. This study concluded the diabetes mellitus affected by sociodemographic variables and as well as some related variables of participants.

**Keywords:** Quality of life, Lifestyle, Primary health care, Diabetes Mellitus, Kirkuk City.

Department of community health nursing, College of Nursing, University of Kirkuk, City of Kirkuk, Iraq

**\*Send correspondence to**

Marwah Ali Khalaf

Department of community health nursing, College of Nursing, University of Kirkuk, City of Kirkuk, Iraq, E-mail: marwaali862008@yahoo.com

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## INTRODUCTION

Diabetes mellitus is a metabolic disorder and chronic, persistent ailment that has a significant effect on people's lives, families, and societies throughout the world<sup>1</sup>. Insulin is a crucial hormone produced by the pancreas. It enables circulatory glucose to reach the body's cells, where it may be stored or transformed into energy. Additionally, the metabolism of fat and protein depends on insulin. High levels of blood glucose are caused by a failure of cells to react to insulin or by a lack of it (hyperglycemia), which is a clinical marker for diabetes<sup>2</sup>. Diabetes problems can be avoided and the quality of life improved with early diagnosis and effective management. Although there is currently no known treatment for diabetes, the risk of long-term problems can be reduced by managing blood sugar levels with a nutritious diet, regular exercise, and medication<sup>3</sup>. Globally, DM is estimated by the World Health Organization (henceforth WHO) to be a risk factor for early death and cardiovascular and renal illnesses linked to improper eating, inactivity or inadequate exercise, smoking, and unsuitable sleeping habits. Approximately 80% of diabetes-related fatalities, and half of these, occur in low-income countries, per WHO research (the agreed age for the number of people under seventy years of age according to age group classifications)<sup>4</sup>. Health is the most basic thing in human life. The term "lifestyle," which refers to a person's way of living and encompasses all activities, habits, and societal ideals, is reasonably well known. The capacity to use assistance from family and the community is the final component of lifestyle, which also includes behaviors such as eating habits, physical activity and exercise, sleeping and resting, weight control, alcohol use and smoking, disease vaccination, and stress management<sup>5</sup>. The socioeconomic position of a population, the quality of the environment, the food individuals eat, personal lifestyles, education, physical activity, and other essential elements all play a significant role in determining that population's health condition<sup>6</sup>. Families have a significant role in providing nourishment for their members as well as other aspects of regular healthy living, including food choices, physical activity, and obesity prevention. Families can set a good example for their children by modeling healthy lifestyle patterns. The outcomes were focused more on improving self-care behaviors and enhancing the family's lifestyles<sup>7</sup>. Major public health issues like diabetes are becoming pandemics. Obesity and overweight are primarily brought on by an energy imbalance between calories ingested and calories burned. Physical exercise is one of the most effective therapeutic treatments for preventing metabolic disorders, and dietary habits are the primary factor in the rapidly increasing incidence of DM. The key components of management are weight loss and maintaining a healthy weight, cutting back on calories consumed, and eating a diet high in fruits, vegetables, whole grains, legumes, nuts, and dairy products. Programs to modify one's lifestyle can not only drastically lower the incidence of diabetes in those with prediabetes but also lower

one's CVD risk<sup>8</sup>. Long-term insulin deficiency can harm numerous bodily organs and result in life-threatening and severe health consequences such as cardiovascular diseases (CVD), nerve damage (neuropathy), kidney damage (nephropathy), and eye illness (leading to retinopathy, visual loss, and even blindness). However, these catastrophic problems can be postponed or even avoided with proper diabetes control<sup>9</sup>. The majority of these earlier investigations have demonstrated that obtaining ideal glycemic control is challenging and that there are several factors involved in this poor control. It has been shown that a number of variables, such as age, sex, ethnicity, education, employment status, marital status, body mass index, smoking status, diabetes duration, presence of comorbidities, polypharmacy, diabetes-related knowledge, non-adherence to medication, and type of medications used, have an impact on a patient's glycemic level if they have diabetes<sup>10</sup>.

## METHODS

In this cross-sectional study, 470 diabetic patients were randomly selected from 10 primary health care centers. A direct interview was done with the patients from November 14th, 2022, to May 28th, 2023, using a special questionnaire that was constructed by the researcher for proper data collection based on a review of related literature and studies. The questionnaire included two sections: Part one is concerned with the sociodemographic details of patients, including their age, gender, marital status, occupations, levels of education, and monthly income. Part two addressed an amount of questions about quality of lifestyle or behavioral aspects (such as daily physical activity, level of independence, environment, psychosocial domain, and spirituality). Statistical software for social science (SPSS) version 22.0 was used for data analysis.

## RESULTS

The results of this current study shows a high level of lifestyle between participant and the male was more response than female, In current study the results reported a high level of main domain such as (level of independence, environment, psychosocial domain ) and reported a moderate level of main domain such as (Daily physical activity, spirituality domain)

The results shows that highly significant relationships are reported between the quality of lifestyle of D.M. patients and their Sociodemographic Characteristic Variables (SDCv.) at  $p < 0.01$  (Table 1). The results shows that a highly significant relationships are reported between quality of lifestyle of D.M. patients and their Some Related Variables (SRv.) at  $p < 0.01$  (Table 2). The result shows that strong relationships are accounted by redistribution of mean of score evaluated of D.M. patients concerning quality of lifestyle and their (SDCv.) (Figure 1).

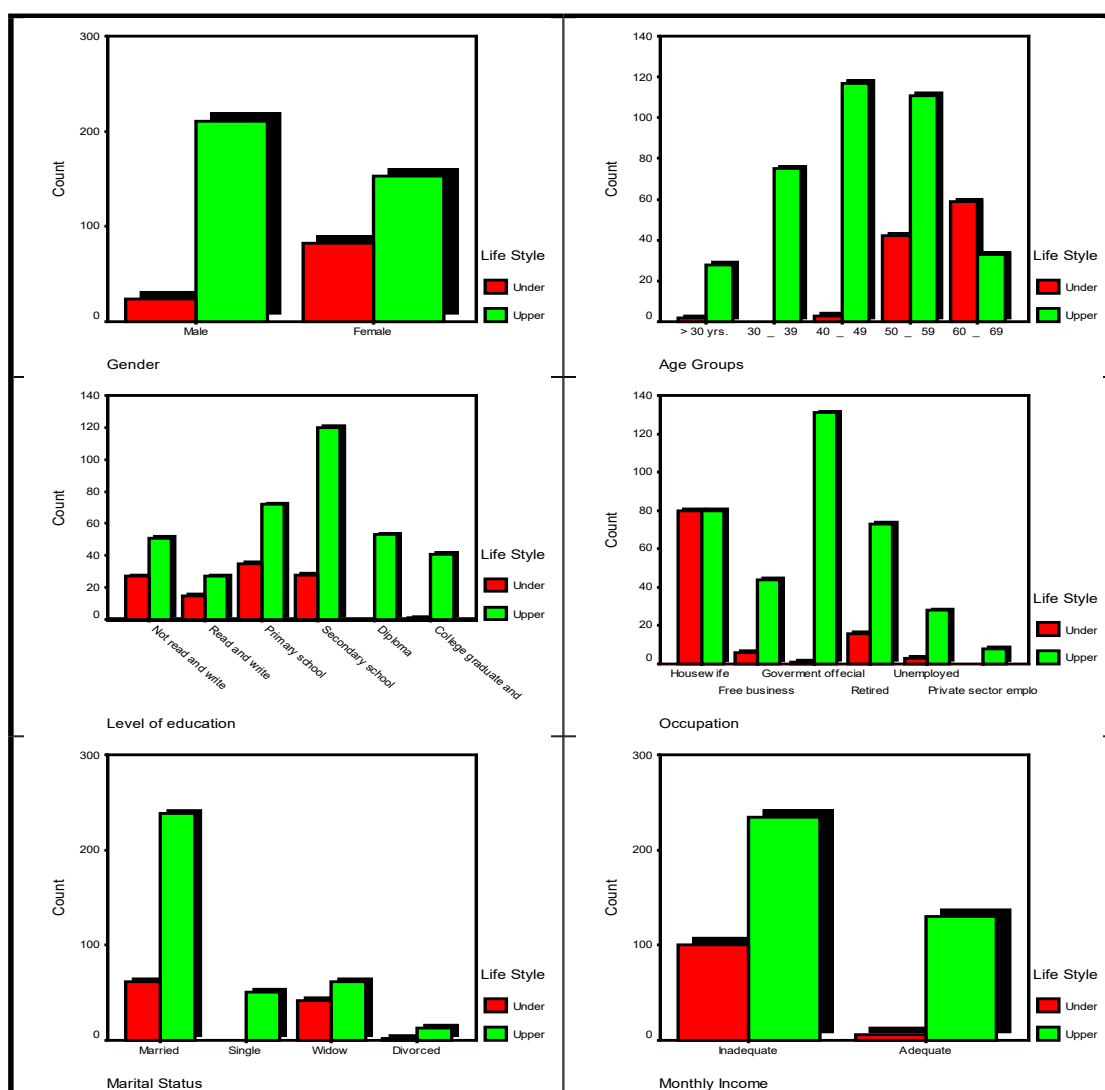
Results shows that strong relationships are accounted by redistribution of mean of score evaluated of D.M. patient's concerning quality of lifestyle and their (SRv.) (Figure 2).

**Table 1:** Association between quality of Life Style of Diabetic Mellitus Patient's responses and their sociodemographic characteristic variables (SDCv) (N=470).

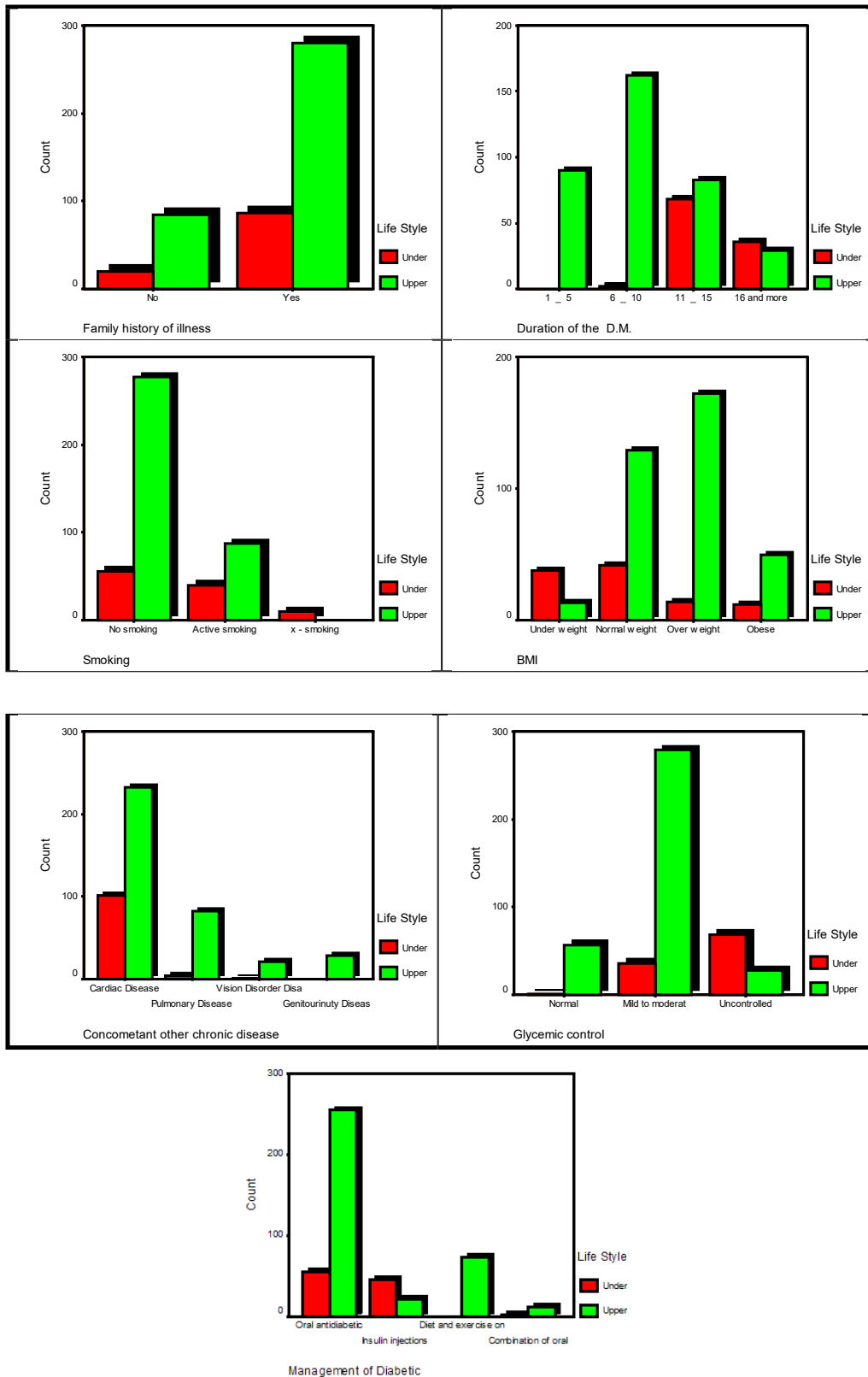
SDCv.	C.C.	Overall Evaluation	P-value
Gender	0.283		0 (HS)
Age Groups	0.488		0 (HS)
Education	0.291		0 (HS)
Marital Status	0.264		0 (HS)
Occupation	0.283		0 (HS)
Monthly Income	0.267		0 (HS)

**Table 2:** Association between Healthy Life Style of Diabetic Patient's responses and their some related variables (SRv) (N=470).

SRv.	C.C.	Overall Evaluation	C.C.
Family History	0.442		0 (HS)
Duration of D.M.	0.495		0 (HS)
Smoking	0.3		0 (HS)
BMI	0.425		0 (HS)
Concomitant other Chronic Disease	0.28		0 (HS)
Glycemic Control	0.513		0 (HS)
Management of Diabetic	0.431		0 (HS)



**Figure 1:** Cluster bar charts show the association between the healthy lifestyle of diabetic mellitus patients' responses and their (SDCv).



**Figure 2:** Cluster bar charts shows association between quality of life style of diabetic mellitus patient's responses and their (SRV).

## DISCUSSION

According to recent data, A large portion of the study's sample in the age group 40–59 years is consistent with the findings found in studies conducted in Baghdad, Iraq<sup>11</sup>; and in Dubai<sup>12</sup>.

The present study observed a high percentage of educated participants in the current sample. Nearly half of them graduated from primary and secondary school education levels, This is similar to findings from a research that was done in Amman<sup>13</sup>, who reported 58.9%, and the study was reported 63% in Spain by<sup>14</sup>.

## REFERENCES

More than a third of the sample were housewives. According to studies done in Indonesia in<sup>15</sup>, and in Pakistan in<sup>16</sup>, 41.3 %,53.7%, and 47.7%, respectively, of the sample were housewives, which supports our study.

The present study shows that less than three-quarters of them were married. In addition, this score was comparable to study done<sup>17</sup> in Erbil, Iraq, that found 84.2%, of sample were married and study done.

The sample's three-quarters had monthly incomes that weren't enough to cover basic expenses. According to research was done in Erbil, Iraq<sup>18</sup>, reported 47.6%, of sample had inadequate monthly income.

Regarding the current result of "Some Related Variables (SRv.)" that include family history, duration of D.M., smoking, BMI, concomitant other chronic diseases, glycemic control, and management of diabetes, it shows that 77.9% of samples had a family history of DM. This result was consistent with the studies by<sup>19</sup>, in Kuwait which reported 73.8% of the samples had family history.

In addition, this finding of the distribution of some related variables revealed that studied samples indicated nearly three-quarters of the 6–15 year duration of DM, which was similar to findings from study done in Zagazig, Egypt<sup>20</sup>, which found that 78.9% of the studied patients suffered more than five years of DM.

Results of studies conducted in Saudi Arabia<sup>21</sup> reported (84.2%), respectively, of studied patients not smoking, which support our study that revealed three quarters of the sample not smoking.

According to research done<sup>22</sup> in Portugal, that was in agreement with the finding of our study, which reported (37.1%) while our study proved (39.5%) that the sample was overweight in BMI. According to a recent study that was done in northern Thailand<sup>23</sup> 40.8% of sample had cardiac disease, and that study confirmed our study, which found out three-quarters of sample had cardiac disease<sup>24</sup>.

The result of the present study showed that the level of glycemic control among diabetic patients is above one half, which is consistent with the finding in Ethiopia<sup>8</sup> and that reported at 71.4%<sup>25</sup>.

Our analysis showed a near match with a recent study done in Morocco<sup>15</sup> which reported 57.7%, while our finding reported more than half of the sample that studies of the management of diabetic oral anti-diabetic agents with diet support this study.

## CONCLUSIONS

This study concluded that all main domain effected by Diabetes Mellitus. It was observed that socio-demographic characteristic variables were significantly associated with quality of lifestyle such as (age, gender, level of education, occupation, marital status, and monthly income). Some related variables (duration of the D.M., smoking, body mass index (BMI), concomitant other chronic diseases, glycemic control, and management of diabetes).

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