








ORIGINAL

## Nursing care related to quality of life in diabetic patients treated at a hospital in North Lima

### Cuidados de enfermería sobre la calidad de vida en pacientes diabéticos atendidos en un hospital de Lima Norte

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#### ABSTRACT

Diabetes mellitus is one of the leading diseases worldwide that significantly compromises a person's health and diminishes their quality of life over time. Therefore, the objective of this research is to determine the nursing care provided to diabetic patients treated at a hospital in northern Lima and its impact on their quality of life. This is a quantitative, descriptive, cross-sectional study with a total population of 132 patients who completed a sociodemographic data questionnaire and the Diabetes 39 instrument. The results show that 58,8 % of patients aged 30 to 59 have an average quality of life. In conclusion, educational counseling on personal care should be provided to patients with diabetes mellitus.

**Keywords:** Quality of Life; Diabetes Mellitus; Nursing Care; Noncommunicable Diseases.

#### RESUMEN

La diabetes mellitus a nivel mundial es una de las enfermedades principales en las que compromete considerablemente el estado de salud de la persona y disminuye con el tiempo su calidad de vida, por lo que el objetivo de investigación es determinar los cuidados de enfermería sobre la calidad de vida en pacientes diabéticos atendidos en un hospital de Lima Norte. Es un estudio cuantitativo, descriptivo-transversal, con una población total de 132 pacientes que desarrollaron un cuestionario de datos sociodemográficos y el instrumento Diabetes 39. En sus resultados, observamos que entre las edades de 30 a 59 años de edad el 58,8 % tienen una calidad de vida media. En conclusión, se debe realizar consejería educativa sobre los cuidados personales en pacientes con diabetes mellitus.

**Palabras clave:** Calidad de Vida; Diabetes Mellitus; Cuidados de Enfermería; Enfermedades no Transmisibles.

#### INTRODUCTION

Diabetes mellitus (DM) is a metabolic disease that affects the population and is considered one of the major public health problems today.<sup>(1)</sup> Population aging, increasing urbanization, sedentary lifestyle, inadequate

diet and obesity are largely responsible for the increasing incidence and prevalence of DM, which represents a challenge for health services.<sup>(2)</sup>

Quality of life (QoL) is considered a good indicator of life expectancy, especially for people with special health conditions, in addition to improving patient care and disease management, particularly during the coronavirus pandemic (COVID-19), future implementation may also improve the quality of life of people with diabetes mellitus.<sup>(3)</sup>

Given that knowledge about the disease and the attitude adopted towards DM self-care have been linked to QoL,<sup>(4)</sup> it is believed that the more knowledge an individual has about the disease and its treatment, the more likely they are to adopt positive attitudes, which translates into aspects that can be directly or indirectly reflected in their QoL.<sup>(5,6)</sup>

Diabetes distress is known to be a problem related to diabetes care, access to social support and care, and emotional stress and anxiety. This often includes the concerns, fears, and threats associated with the demands of a chronic disease such as diabetes.<sup>(7)</sup>

In the United States, a study confirmed that diabetes distress (DD) is associated with lower diabetes quality of life (QoL) for people with type I and type II diabetes, suggesting that attending or working in the teaching field may be associated with high diabetes distress scores and lower diabetes QoL.<sup>(8)</sup>

A study in Cuba of 82 people with type II diabetes in the city of Teresina revealed that most people living with diabetes have good QoL, and those who suffer a negative impact have the emotional factor as the most affected domain. Among the sociodemographic and clinical conditions associated with low QoL, age, type of housing, type of diabetes, and time since diagnosis of the disease stood out.<sup>(9)</sup>

A study in Mexico that evaluated 27 patients diagnosed with type II DM showed that the highest level of quality of life is reflected in social and professional care, satisfaction with treatment, and the impact on treatment, while the most affected aspects were general well-being and concern about the future effects of diabetes. In addition, a small, positive, and statistically significant correlation was found between disease progression time and adverse treatment effects.<sup>(10)</sup>

In Asia, a study conducted in Iran, where 266 older people with type II diabetes were surveyed, revealed that barriers to treatment such as psychological distress related to diabetes management, type of treatment, and age were statistically significant predictors of QoL dimensions.<sup>(11)</sup> On the other hand, a study among DM patients living in central Thailand in 2019 showed that more than half of DM patients had a good quality of life.<sup>(12)</sup>

A study conducted in Spain showed that women's quality of life in terms of health is worse than that of men. Age, number of years since diagnosis, presence of complications, as well as comorbidities, medication regimens, and glycemic control all have a direct impact. On the other hand, living alone, low socioeconomic status, low social support, and needing help with diabetes were associated with poor quality of life.<sup>(13)</sup>

In Africa, in southwestern Ethiopia, it was noted that all dimensions of HRQoL in diabetic patients were affected in this study environment, with important predictors such as age, disease duration, and fasting glucose levels being identified. Interventions beyond standard care are needed to improve HRQoL in people with diabetes.<sup>(14)</sup>

In Latin America, a study conducted in Brazil found that DM has a high impact on patients' QoL, with the main correlated variables being age, sex, time of diagnosis, glycemic control, and the presence of complications/comorbidities.<sup>(15)</sup>

Similarly, in Peru, a study found a significant association between the level of knowledge about DM2 and the level of adherence to DM2 treatment, as well as the level of education and place of origin, indicating the importance of determining certain factors specific to a population that directly influence adherence to treatment for this disease.<sup>(16)</sup>

Therefore, the research objective is to determine the nursing care provided to diabetic patients treated at a hospital in northern Lima.

## **METHOD**

### **Research type and design**

This study is quantitative in nature, using a descriptive, cross-sectional, non-experimental methodology.<sup>(17)</sup>

### **Population**

The population consists of a total of 132 participants diagnosed with diabetes mellitus who are receiving care at a hospital in northern Lima.

### **Inclusion Criteria**

- Participants must be over 30 years of age.
- Participants who are treated at the endocrinology clinic.
- Participants who voluntarily agree to participate in the study.

### Technique and Instrument

The technique used was a survey, which describes the data collection instrument Diabetes 39.

For data collection, the survey is distributed according to sociodemographic aspects and the Diabetes 39 instrument, which comprises 39 items distributed across five dimensions: energy and mobility (15 items), diabetes control (12 items), control and concern (4 items), social burden (5 items), and sexual function (3 items). These were assessed using a Likert scale with seven response options: “1 = not at all,” “2 = almost not at all,” “3 = a little,” “4 = fair,” “5 = a lot,” “6 = too much,” and “7 = tremendously,” so that the score would range from “1 to 91” for low quality of life, “92 to 183” for average quality of life, and “184 to 273” for high quality of life, with higher scores indicating a higher quality of life for the patient. Finally, two items at the end (patient perception and severity of the disease) were not taken into account as they do not contribute to the final score.<sup>(18,19)</sup>

The instrument was validated using the Kaiser-Mayer-Olkin sample adequacy test, obtaining a coefficient of 0,965 ( $KMO > 0,5$ ), and the Bartlett sphericity test yielded significant results ( $X^2_{approx.} = 9497,375$ ;  $gl = 741$ ;  $p = 0,000$ ).

The reliability of the instrument was assessed using Cronbach’s alpha, obtaining a score of 0,989 ( $\alpha > 0,8$ ) for the 39 items of the instrument.

### Place and Application of the Instrument

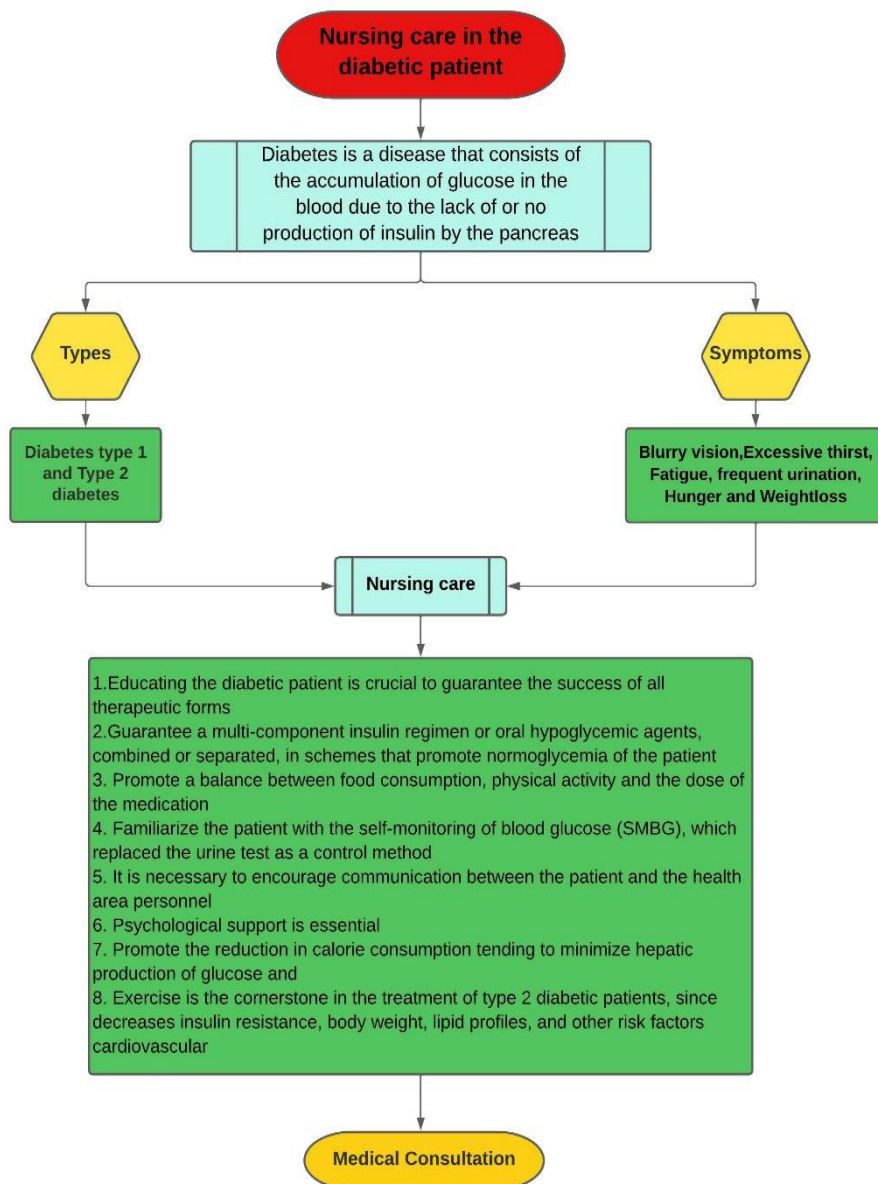


Figure 1. Flowchart of nursing care for a diabetic patient

To conduct the survey, prior arrangements were made with the head of outpatient endocrinology to carry out the study, and details were provided so that they would be aware of what was going to be done.

This flow chart shows the process that nursing professionals must follow when caring for patients diagnosed with diabetes mellitus.

The importance of blood glucose control in reducing complications in diabetic patients has been clearly demonstrated in long-term studies and interventions, where the primary goal of blood glucose control in most diabetics is to reduce glycosylated hemoglobin to less than two percentage points above the upper limit of normal. In addition, the intensity of treatment must be individualized and adjusted in each case. In the care of diabetic patients, it is essential to simultaneously manage other metabolic variables that coexist with hyperglycemia, i.e., serum cholesterol, HDL cholesterol, LDL cholesterol, and triglyceride concentrations must be strictly monitored, as well as weight, body mass index (BMI), waist-to-hip ratio, and systolic and diastolic blood pressure, in order to minimize the incidence of acute and chronic complications.

To this end, nursing care includes assessment and control of symptoms, but also adequately informing the patient about the medical, nutritional, and physical guidelines to follow for self-treatment of their disease.

## RESULTS

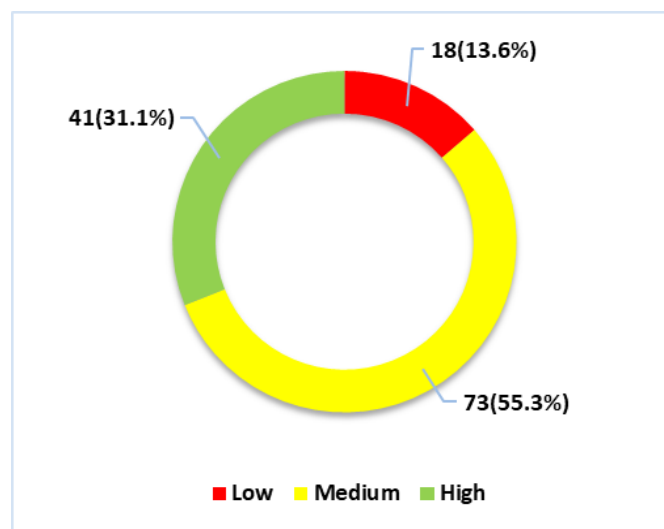


Figure 2. Quality of life in diabetic patients treated at a hospital in northern Lima

We can see in figure 2 that 13,6 % (n=18) of participants have a low quality of life, 55,3 % (n=73) have an average quality of life, and 31,1 % (n=41) have a high quality of life.

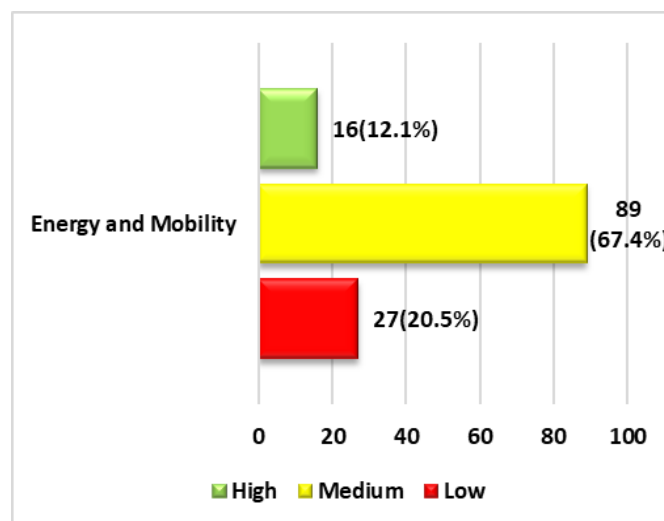
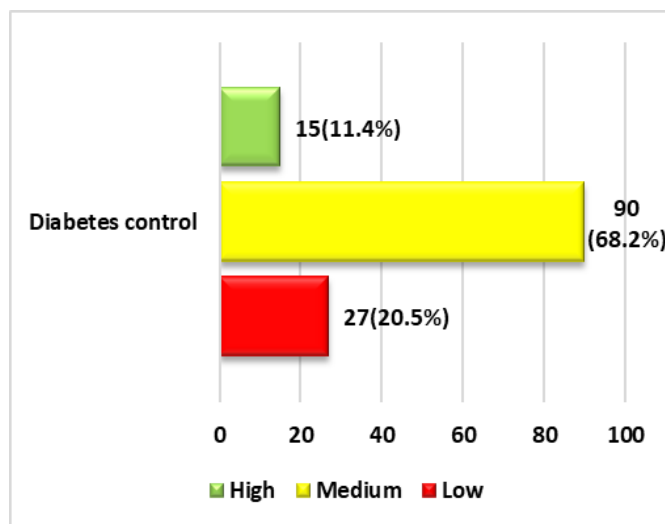


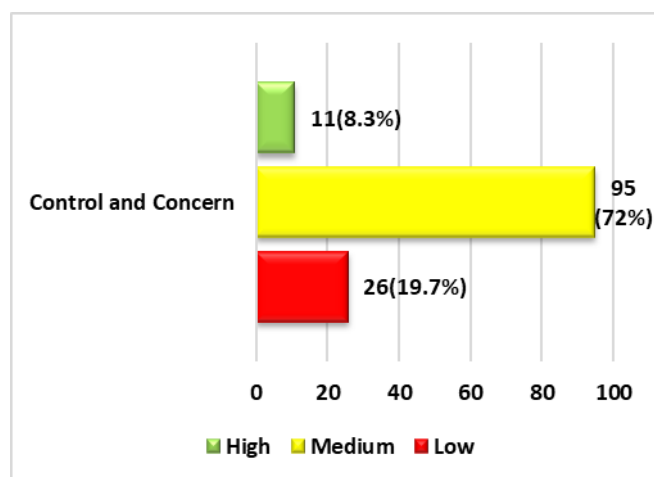
Figure 3. Quality of life in terms of energy and mobility in diabetic patients treated at a hospital in northern Lima

In figure 3, we can see that 12,1 % (n=16) of participants have a high quality of life in terms of energy and mobility, 67,4 % (n=89) have an average quality of life, and 20,5 % (n=27) have a low quality of life.



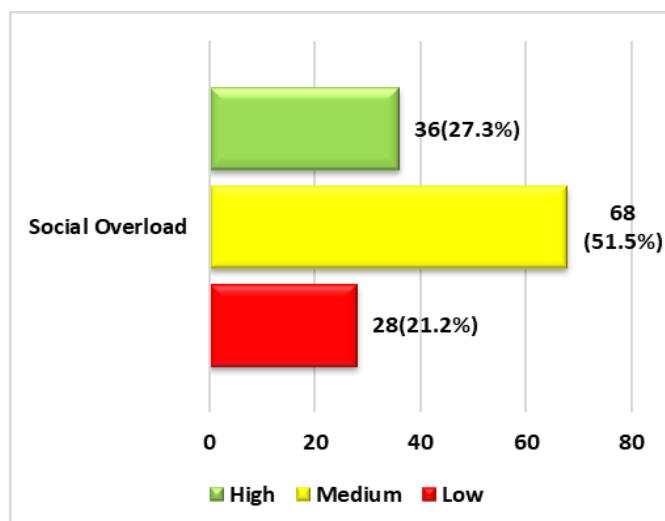
**Figure 4.** Quality of life in terms of diabetes control among diabetic patients treated at a hospital in northern Lima

In figure 4, we can see that 11,4 % (n=159) of participants have a high quality of life in terms of diabetes control, 68,2 % (n=90) have an average quality of life, and 20,5 % (n=27) have a low quality of life.



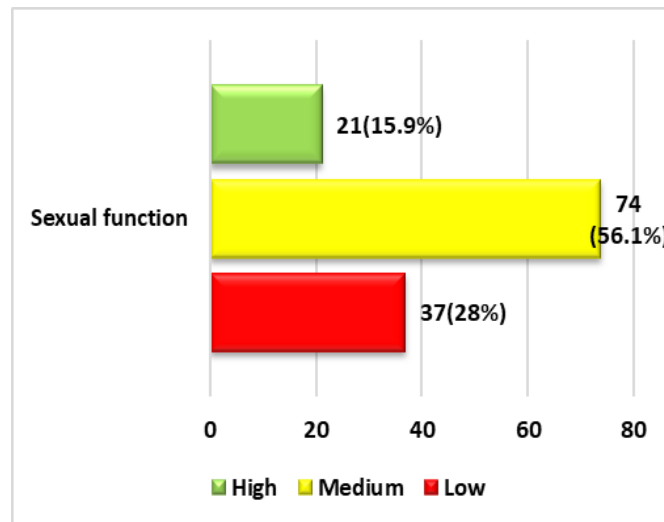
**Figure 5.** Quality of life in terms of control and concern among diabetic patients treated at a hospital in northern Lima

In figure 5, we can see that 8,3 % (n=11) have a high quality of life in terms of control and concern, 72 % (n=95) have an average quality of life, and 19,7 % (n=26) have a low quality of life.



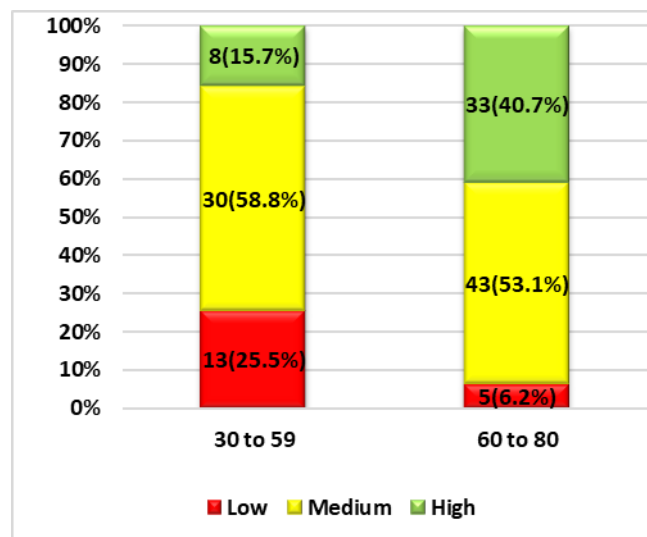
**Figure 6.** Quality of life in terms of social burden among diabetic patients treated at a hospital in northern Lima

Figure 6 shows that 27,3 % (n=36) of participants have a high quality of life with respect to their social burden dimension, 51,5 % (n=68) have a medium quality of life, and 21,2 % (n=28) have a low quality of life.



**Figure 7.** Quality of life in terms of sexual function among diabetic patients treated at a hospital in northern Lima

Figure 7 shows that 15,9 % (n=21) of participants have a high quality of life in terms of sexual function, 56,1 % (n=74) have an average quality of life, and 28 % (n=37) have a low quality of life.



**Figure 8.** Quality of life in relation to the ages of diabetic patients treated at a hospital in northern Lima

In figure 8, we can see that 15,7 % (n=8) of participants between the ages of 30 and 59 have a high quality of life, 58,8 % (n=30) have an average quality of life, and 25,5 % (n=13) have a low quality of life. and participants between the ages of 60 and 80, 40,7 % (n=33) have a high quality of life, 53,1 % (n=43) have an average quality of life, and 6,2 % (n=5) have a low quality of life.

## DISCUSSION

This study focused on cardiovascular and metabolic diseases, with a view to promoting cardiovascular risk prevention in diabetics and nursing care for diabetic patients.

In the results on quality of life in diabetics, we observed that they have a measured quality of life. We interpret this to mean that all diabetic patients, as they live with the disease, tend to modify their lifestyle, where self-care will play an important role for the diabetic person, where a healthy diet, exercise, following the treatment correctly, and good family interaction will enable them to maintain and improve their quality of life, minimizing the risks that their disease can cause, and in turn allowing them to live a normal life by following the advice of health professionals, who seek strategies to improve self-care in diabetic patients, which fundamentally allows them to develop coping skills for the disease, improving their physical, mental, and family behavior.

Although it is more common in older people than in young people, as young people tend to be very careless about their health, diabetes appears more easily due to high exposure to glucose, where factors such as sugars, fat, and carbohydrates are factors that are often associated with high blood pressure, high cholesterol, and obesity, and these diseases are often significantly related to diabetes. Therefore, the body, not being able to cope with such consumption, does not usually adapt to the new situation, since, being a young organism, it does not usually adapt quickly to the increase in glucose. Therefore, the risk of developing diabetes is greater if healthy habits are not adopted to prevent this disease from accompanying the person for the rest of their life.

The results of the dimensions show that the diabetic people in the study have a quality of life in relation to all dimensions. We can interpret this to mean that the changes made by diabetic people often cause conflicts in their bodies, given that the activities they used to do and the foods they used to eat and can no longer consume as a result of the disease. Occasionally, the quality of life of people with diabetes improves, as coping with the disease by correctly following the coping strategies given by their healthcare professional allows them to maintain a stable quality of life in the face of the disease they are suffering from.

## CONCLUSIONS

It is concluded that motivational counseling should be provided to people with diabetes on self-care to increase behavioral and emotional levels.

It is concluded that talks should be given on promoting a healthy lifestyle, aimed at people with diabetes mellitus.

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#### CONFLICT OF INTEREST

Authors declare that there is no conflict of interest.

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