



## Quality of life in diabetics who attend the outpatient clinic of a hospital in North Lima

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### ABSTRACT

Diabetes mellitus is one of the main problems worldwide, where risk factors in diabetic patients generate changes in their quality of life, putting their health at risk by altering the physical and emotional capacity of the person who suffers from it. The research objective is to determine the quality of life of diabetics who attend the outpatient clinic of a Hospital in North Lima. In the results, of the 132 participating patients, 18 (13.6%) diabetic patients have a low quality of life, 73 (55.3%) have a medium quality of life, and 41 (31.1%) have a high quality of life. It is concluded that diabetic patients should be guided and educated in relation to their self-care allows for generating changes at the behavioral level, and thus guarantees that they have a full and controlled quality of life.

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### 1. Introduction

Worldwide, the non-communicable disease of diabetes mellitus (DM) is one of the main problems in public health in comparison with other non-communicable diseases (Shahdadi et al., 2018). Today it is one of the most latent diseases found and is increasing in the entire population, where the quality of life of the person is increasingly at risk as a result of this disease (Jeong, 2020; Sekhar et al., 2019).

The World Health Organization (WHO) maintains that the number of people suffering from DM has quadrupled in the last 40 years, where the quality of life of each person is affected and every day they put themselves at risk of premature death due to the disease instead of reducing the risk. Mostly, this disease is present in people under 40 years of age and because of this there are many people who do not take into account how risky it is to suffer from this disease, considerably affecting their health (WHO, 2021).

Compared with adults over 40 years of age, people with diabetes between 20 and 40 years old tend to be less aware of the severity of this disease. So, it leads to poor management, generating risk factors related to DM (Fuentes et al., 2020;

Machado Romero et al., 2010), in such a way that the productive life of the person with DM can be shortened between 5 to 10 years for adults and between 16 years for young people (Alshayban and Joseph, 2020; Grudziąż-Sękowska et al., 2021).

In such a way, in order to have adequate control of the disease, it is necessary to avoid all foods that compromise health, in addition to performing physical activities and not forgetting to take medications (Marte et al., 2019), although these preventions are so that glucose does not increase, although, an infectious process, stress or taking pain medication can cause a person's glucose to rise (Villa et al., 2020; Parsa et al., 2017). Therefore, diabetic people face a challenge in changing their lifestyle, generating an impact on their quality of life (Azañedo et al., 2017).

In a study carried out in Peru, it was observed in 132 participants with DM that 54.54% of the male sex had a low quality of life and 45.46% of the female sex also had a low quality of life, where age, the sex, and glycemia of the person are significantly associated with the low level of quality of life (Perales and Caceres, 2017).

In a study carried out in Paraguay, it was observed that in 101 participants with DM, 49% presented a poor quality of life related to their health and 51% had a good quality of life related to their health and in sex masculine, a relationship was found with a good quality of life-related to their health (Brítez and Taboada, 2017).

In a study carried out in Venezuela, it was observed in 200 participants with DM that, the quality of life related to their health was found at a

low and moderate level, indicating that their quality of life was insufficient due to the deterioration of their skills and the ability to be able to cope with the disease (Pan et al., 2019).

Is the quality of life important in patients diagnosed with DM? For this reason, the objective of the research objective is to determine the Quality of Life of diabetics who attend the outpatient clinic of a Hospital in North Lima.

## 2. Materials and methods

The research is quantitative in properties, descriptive in methodology, not experimental, and cross-sectional (Sampieri et al., 2014). The total population is made up of 132 patients who go to an outpatient clinic of a Hospital in North Lima. Sampling was not carried out since the study was carried out with all the patients of the endocrinology service. The inclusion criteria are as follows:

- Patients between the ages of 30 and 80 years old.
- Patients who attend the endocrinology office of the Sergio Enrique Bernales Hospital.
- Patients who voluntarily agree to be in the study.

### 2.1. Technique and instrument

The technique used was the survey, in which the Diabetes 39 data collection instrument was used, which was adapted to the Spanish version to measure the quality of life in diabetics who attended an outpatient clinic at the North Lima Hospital.

For data collection, it has been structured in 2 blocks: 1. Socio-demographic data such as age, marital status, level of education, and current occupation; 2. Diabetes 39 comprises 39 items distributed in 5 dimensions: Energy and mobility (15 items), diabetes control (12 items), control and concern (4 items), social overload (5 items), and sexual function (3 items), in which it is valued with a Likert-type scale with 7 response options: "1=not affect at all," "2=almost nothing," "3=a little," "4=regular," "5=a lot," "6=too much," "7=tremendous affection," so its score would be "1 to 91" is the low quality of life, "92 to 183" medium quality of life and "184 to 273" high quality of life, the higher the score, the higher the quality of life of the patient. In addition, the instrument contains two items that go to the end, which assesses the perception of the patient about their quality of life at a global level and the severity of the disease, of which they were not taken in the study since they did not contribute in the final score (Boyer and Earp, 1997; López-Carmona and Rodríguez-Moctezuma, 2006).

The validity of the instrument was determined based on the exploratory factor analysis technique with the Kaiser-Mayer-Olkin sample adequacy measure, obtaining a coefficient of 0.961 ( $KMO > 0.5$ ), while Bartlett's sphericity test obtained results significant ( $X^2 \text{ approx.} = 9497.375$ ;  $gl = 741$ ;  $p = 0.000$ ).

The reliability of the instrument was determined based on Cronbach's Alpha statistical test, the same one that was obtained for all the items ( $i = 39$ ) a coefficient of 0.994 ( $\alpha > 0.8$ ).

## 2.2. Instrument location and application

The survey was carried out to measure the quality of life of diabetic patients that was carried out at the Sergio Enrique Bernales Hospital, which is in the district of Comas in North Lima; Coordination was carried out with the doctor from the endocrinology outpatient clinic to carry out the study, considering the bioethical principles of beneficence, non-maleficence, autonomy, and justice.

## 3. Results

In Fig. 1, we observe the quality of life in diabetics, 18 (13.6%) of diabetic patients have a low quality of life, 73 (55.3%) have a medium quality of life and 41 (31, 1%) have a high quality of life.

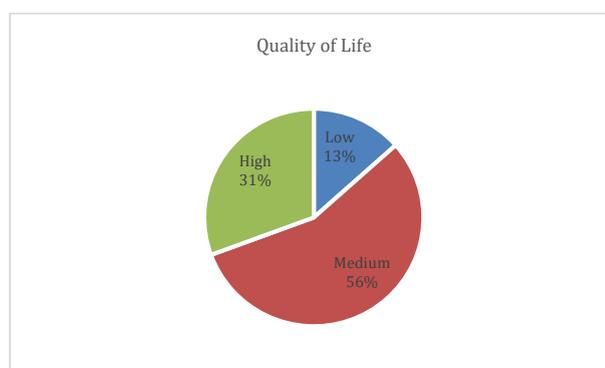


Fig. 1: Quality of life of diabetics who attend the outpatient clinic of a hospital in North Lima

In Fig. 2, we observe the dimensions of quality of life in diabetics, where in the energy and mobility dimension, 27 (20.5%) have a low quality of life, 89 (67.4%) medium quality of life, and 16 (12.1%) high quality of life; In terms of diabetes control, 27 (20.5%) have a low quality of life, 90 (68.2%) have a medium quality of life and 15 (11.4%) have a high quality of life; in its control and concern dimension, 26 (19.7%) have a low quality of life, 95 (72%) have a medium quality of life and 11 (8.3%) have a high quality of life; in its social overload dimension, 28 (21.2%) have a low quality of life, 68 (51.5%) have a medium quality of life and 36 (27.3%) have a high quality of life; and in its sexual function dimension, 37 (28%) have a low quality of life, 74 (56.1%) have a medium quality of life and 21 (15.9%) have a high quality of life.

In Fig. 3, we observe the quality of life in relation to sex, wherein the female sex, 15 (23.8%) have a low quality of life, 28 (44.4%) have a medium quality of life, and 20 (31) high quality of life; regarding males, 3 (4.4%) have a low quality of life, 45 (65.2%) have a medium quality of life and 21 (30.4%) have a high quality of life.

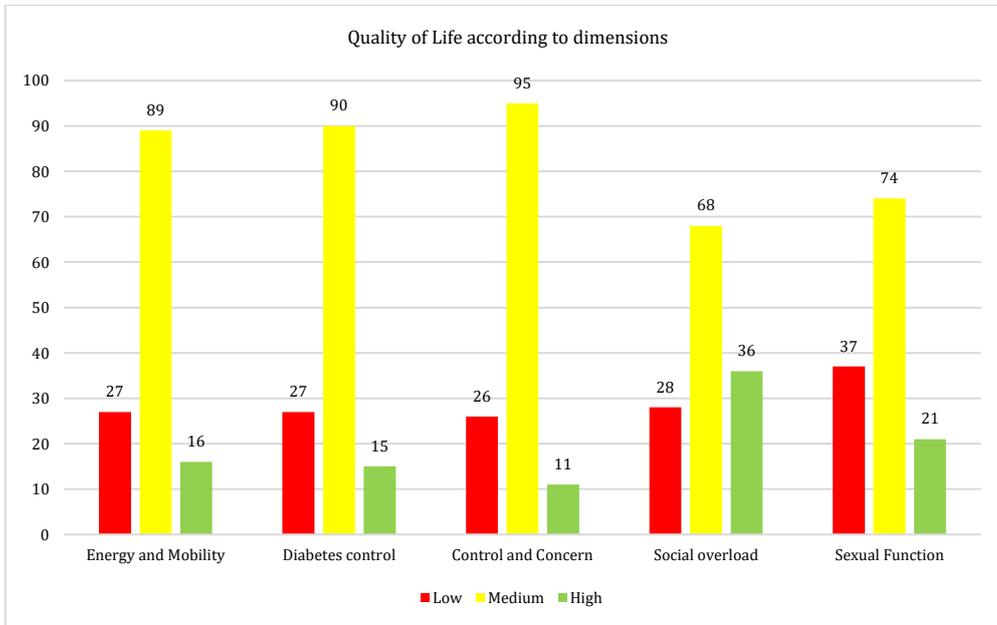


Fig. 2: Quality of life in relation to its dimensions in diabetics who attend the outpatient clinic of a hospital in North Lima

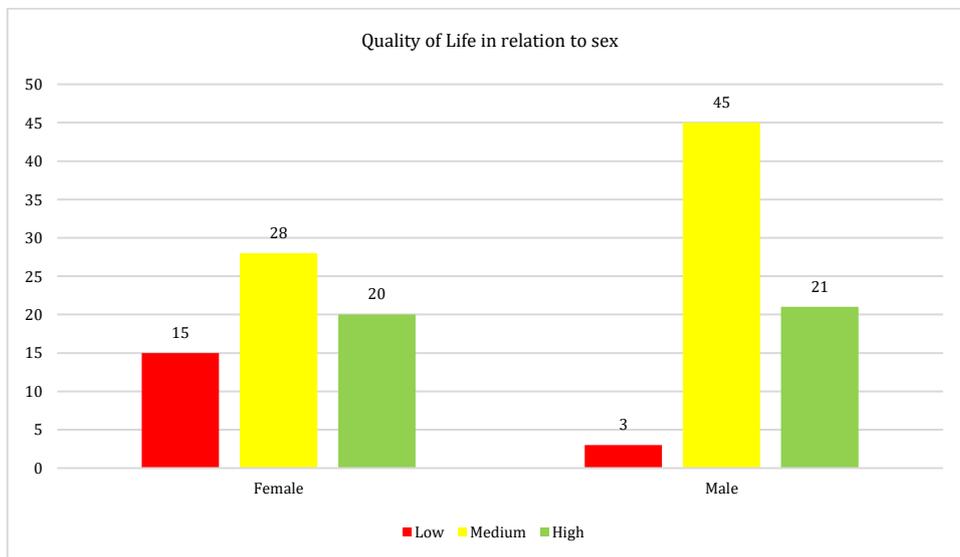


Fig. 3: Quality of life in relation to sex in diabetics attending the outpatient clinic of a hospital in North Lima

In Fig. 4, we observe the quality of life according to the ages of the diabetics, where, at the ages of 30 to 59 years, 13 (25.5) have a low quality of life, 30 (58.8%) have a medium quality of life and 8 (15.7%) high quality of life; as for the ages of 60 to 80 years, 5 (6.2%) have a low quality of life, 43 (53.1%) have a medium quality of life and 33 (49.7%) have high quality of life.

#### 4. Discussions

In the present research work, an approach is given from the perspective of metabolic and cardiovascular diseases, emphasizing the promotion and prevention of health, also caring for the diabetic patient where they can face the disease and not develop complications, altering their quality of life.

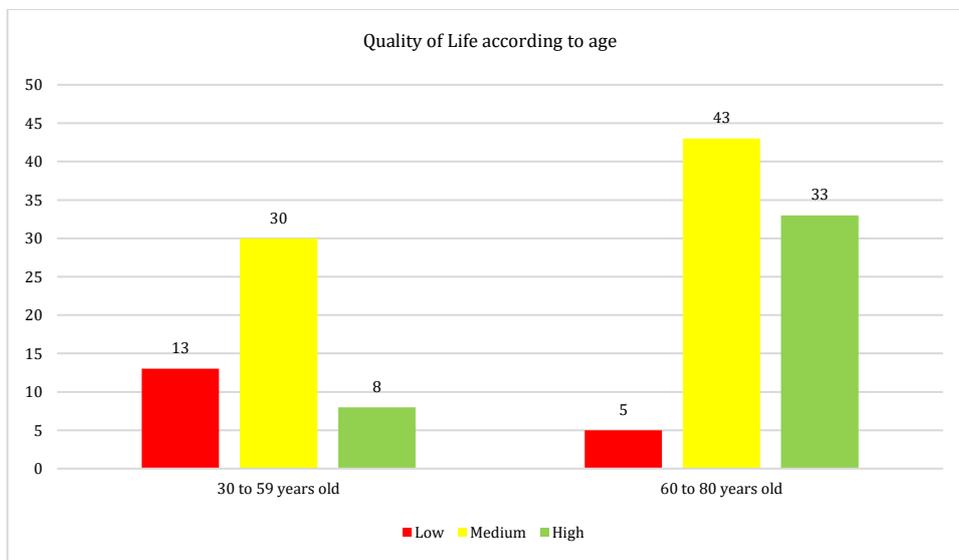
In the quality of life results, we observe that the majority of diabetic people have a medium quality of life, this is due to the fact that diabetic patients modify their self-care behaviors where eating,

physical activity, and correct taking of medications, allows maintain and improve their quality of life in themselves, allowing to prevent risks that can be serious in the diabetic patient, so that they can function normally due to the counseling that the health professional has prioritized. The authors mention that the strategies carried out by health professionals for self-care in the diabetic patient will be fundamental, because these strategies will allow the diabetic patient to develop ways of coping with the disease, allowing healthy mental, physical, and family relationships, lead to an improvement in their behavior about their treatment to maintain their quality of life to a significant margin avoiding all kinds of risks that compromise their health.

In the results of the dimensions, we observe that diabetic patients have a medium quality of life in relation to the dimensions, this is because the change in life in diabetic patients generates conflict in themselves, where many of the routines of any food, they will not be able to do them because due to the

disease they tend to stay on the sidelines and thus not run the risk that their diabetes may worsen, although in some cases, some patients tend to ignore it and tend to present other pictures that further compromise the disease. The authors mention that, for a diabetic patient to cope with the disease, it is

with the family, because they will be the support so that the diabetic patient can improve, since on an emotional level, they tend to be depressed due to the disease, however, the family is the support so that the diabetic patient can follow the appropriate treatment and strategies for the disease.



**Fig. 4:** Quality of life according to age in diabetics attending the outpatient clinic of a hospital in Lima Norte

In the results of quality of life according to age, we observe that the quality of life in the ages of 60 to 80 years old is higher than in the ages of 30 to 59 years old, this is because the younger you are, the diabetes more easily because glucose has been elevated in the blood for longer, and high glucose exposure drastically changes the organism of younger people, because their organism has not been able to adapt to the new situation, that is why risks are generated more easily because young people are less aware of the severity of this disease, and therefore poor management of the risks of the disease can generate serious consequences throughout their lives. The authors mention that being younger increases the risks of suffering from diabetes, because excessive consumption of sugar, fat, and carbohydrates increases the chances of having cardiovascular and metabolic risks, allowing most to be related to obesity, hypertension, and high cholesterol, thus beginning a phase where the disease of diabetes occurs.

## 5. Conclusion

It is concluded that diabetic patients should be guided in relation to their self-care since this will allow them to have a good quality of life in the long term. Changes in their personal life will make it difficult at the beginning to maintain their health in terms of self-care. Home visits should be made to diabetic patients who live alone, and thus be able to carry out nutritional and self-care counseling.

The quality of life in patients with DM in the study was mostly medium level, this is because they had a prescribed treatment that allows improvement in

their glycemic and metabolic levels, allowing a good quality of life and avoiding complications.

In the study, the limited access by the professional in charge of the service is revealed, since it only allowed us to carry out the survey and not interact so much with the patient due to the high demand of patients who were attended.

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## Compliance with ethical standards

## Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## References

- Alshayban D and Joseph R (2020). Health-related quality of life among patients with type 2 diabetes mellitus in Eastern Province, Saudi Arabia: A cross-sectional study. PLOS ONE, 15(1): e0227573. <https://doi.org/10.1371/journal.pone.0227573> PMID:31923232 PMCID:PMC6953887
- Azañedo D, Bendezú-Quispe G, Lazo-Porras M, Cárdenas-Montero D, Beltrán-Ale G, Thomas NJ, and Málaga G (2017). Calidad de control metabólico en pacientes ambulatorios con diabetes

- tipo 2 atendidos en una clínica privada. *Acta Médica Peruana*, 34(2): 106-113. <https://doi.org/10.35663/amp.2017.342.318>
- Boyer JG and Earp JAL (1997). The development of an instrument for assessing the quality of life of people with diabetes: Diabetes-39. *Medical Care*, 35: 440-453. <https://doi.org/10.1097/00005650-199705000-00003> **PMid:9140334**
- Brítez M and Taboada ETD (2017). Quality of life in patients with type 2 diabetes mellitus. *Revista del Nacional (Itauguá)*, 9(1): 78-91. <https://doi.org/10.18004/rdn2017.0009.01.078-091>
- Fuentes FL, Rojas SO, Liberonaa FM, Cammella JF, and López-Alegríab F (2020). Impacto en la calidad de vida de los adolescentes con diabetes mellitus tipo. *Revista Chilena de Pediatría*, 91(6): 968-981. <https://doi.org/10.32641/rchped.v91i6.2457> **PMid:33861836**
- Grudziąż-Sękowska J, Zamarlik M, and Sękowski K (2021). Assessment of selected aspects of the quality of life of children with type 1 diabetes mellitus in Poland. *International Journal of Environmental Research and Public Health*, 18(4): 2107. <https://doi.org/10.3390/ijerph18042107> **PMid:33671503 PMCID:PMC7926510**
- Jeong M (2020). Predictors of health-related quality of life in Korean adults with diabetes mellitus. *International Journal of Environmental Research and Public Health*, 17(23): 9058. <https://doi.org/10.3390/ijerph17239058> **PMid:33291678 PMCID:PMC7730541**
- López-Carmona JM and Rodríguez-Moctezuma R (2006). Adaptación y validación del instrumento de calidad de vida Diabetes 39 en pacientes mexicanos con diabetes mellitus tipo 2. *Salud Pública de México*, 48(3): 200-211. <https://doi.org/10.1590/S0036-36342006000300004> **PMid:16813128**
- Machado Romero A., Anarte Ortiz MT, and Ruiz de Adana Navas, MS (2010). Predictores de calidad de vida en pacientes con diabetes mellitus tipo 1. *Clínica y Salud*, 21(1): 35-47. <https://doi.org/10.5093/cl2010v21n1a4>
- Marte JLC, Javier A, Ruiz-Matuk C, and Paulino-Ramirez R (2019). Quality of life and nutritional status in diabetic patients on hemodialysis. *Diabetes and Metabolic Syndrome: Clinical Research and Reviews*, 13(1): 576-580. <https://doi.org/10.1016/j.dsx.2018.11.020> **PMid:30641769**
- Pan KC, Hung SY, Chen CI, Lu CY, Shih ML, and Huang CY (2019). Social support as a mediator between sleep disturbances, depressive symptoms, and health-related quality of life in patients undergoing hemodialysis. *PLOS ONE*, 14(4): e0216045. <https://doi.org/10.1371/journal.pone.0216045> **PMid:31034497 PMCID:PMC6488079**
- Parsa P, Ahmadiania-Tabesh R, Mohammadi Y, and Khorami N (2017). Investigating the relationship between quality of life with lipid and glucose levels in Iranian diabetic patients. *Diabetes and Metabolic Syndrome: Clinical Research and Reviews*, 11: S879-S883. <https://doi.org/10.1016/j.dsx.2017.07.009> **PMid:28755844**
- Perales BJC and Caceres VAS (2017). Factores asociados a bajo nivel de calidad de vida relacionado a salud en pacientes con diabetes. *Revista Experiencia en Medicina del Hospital Regional Lambayeque: REM*, 3(1): 9-14.
- Sampieri RH, Collado CF, and Lucio MDPB (2014). *Metodología de la investigación*. 6<sup>th</sup> Edition, McGraw-Hill/Interamericana, Ciudad de México, México.
- Sekhar MS, Unnikrishnan MK, Vijayanarayana K, and Rodrigues GS (2019). Impact of patient-education on health related quality of life of diabetic foot ulcer patients: A randomized study. *Clinical Epidemiology and Global Health*, 7(3): 382-388. <https://doi.org/10.1016/j.cegh.2018.07.009>
- Shahdadi H, Salarzaee M, and Balouchi A (2018). Quality of life of diabetic patients with smear positive PTB in southeastern Iran: A cross-sectional study in a poor region of Iran. *Indian Journal of Tuberculosis*, 65(2): 159-163. <https://doi.org/10.1016/j.ijtb.2017.08.035> **PMid:29579431**
- Villa KF, González CG, Rodríguez MP, Peña EB, Ríos CAG, and Maygua MAV (2020). Dimensiones de calidad de vida afectadas en pacientes diabéticos. *Revista Cubana de Enfermería*, 36(1): e2610.
- WHO (2021). *Global Compact to speed up action to tackle diabetes*. World Health Organization, Geneva, Switzerland.