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Quality of life in patients with diabetes mellitus treated in an outpatient clinic of a hospital in North Lima

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ABSTRACT

Diabetes mellitus is one of the main problems that affect the world, where lifestyle changes play an important role in preventing risks due to the disease, so the research objective is to determine the quality of life in patients with diabetes mellitus treated in the outpatient clinic of a hospital in North Lima. Its research objective is to determine the quality of life in patients with diabetes mellitus treated in the outpatient clinic of a hospital in North Lima. It is a quantitative, descriptive, and cross-sectional study, made up of a total of 113 study participants who responded to a survey of sociodemographic aspects and the Diabetes 39 instrument. Its research objective is to determine the quality of life in patients with diabetes mellitus treated in the outpatient clinic of a hospital in North Lima in the results, we can observe that the quality of life in patients with diabetes mellitus treated in Outpatient consultation, 18 (15.9%) of the patients have a low quality of life, 67 (59.3%) have a medium quality of life and 28 (24.8%) have a high quality of life. In conclusion, education in diabetes patients should be prioritized in relation to their self-care since this will allow for a healthy lifestyle.

1. Introduction

At present, the disease of diabetes mellitus (DM) known as a non-transmissible metabolic disease is one of the main problems in public health compared to other diseases (de la Cruz et al., 2020; Jankowska et al., 2021), this is because DM is found in a latent state, where more diagnoses of DM are increasing, and this puts the health of the person at risk, affecting their quality and lifestyle (Torres et al., 2021).

Likewise, the Pan American Health Organization (PAHO) maintains that between 30%-40% of the population suffer from undiagnosed DM and more than 50% in the Americas suffer from uncontrolled DM, therefore they estimate that in the year 2040, the number of people with DM will triple over the years (WHO, 2020).

This is due to the fact that more in the population under 40 years old, are diagnosed with DM, and this affects their quality of life (Dehvan et al., 2021; Demla et al., 2021), and by not being adequately controlled, increases the indexes risk of premature death, where cardiovascular and kidney diseases cut their life years (Guamán et al., 2021; Inoue et al., 2021).

Compared with people over 40 years old with DM, people under 40 years old tend not to be aware of the severity of the disease (Huamán Macha et al., 2020; Sari et al., 2021), shortening their productive life, where, in an adult person with DM, their Productive life is shortened by 5 to 10 years compared to the young population, which is shortened by 16 years (Grudziąż-Sękowska et al., 2021; Andrea and Hurtado, 2016).

Therefore, to control the disease and prevent risks, it is necessary to have healthy strategies that do not compromise their health, where physical activities, balanced nutrition, adherence to treatment, and in addition to family support (Reinoso and Gavilanes, 2020), are factors that will allow the person to prevent DM is complicated, since this disease is a great challenge changing their lifestyle, causing a great impact on their quality of life (Linari et al., 2019; Grigorescu et al., 2021).

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In a study carried out in Peru (Vilchez-Cornejo et al., 2020), with 572 participants, they observed that among people with diabetes mellitus, 83.87% had inadequate glycemic control and 77.87% did not perform physical activities, where most of the participants did not have adequate and control over the proper diet in addition to their treatment.

In another study carried out in Peru (Huayanay-Espinoza et al., 2021), it was observed that in people over 65 years old a good quality of life was evidenced, as they did not present complications and family support, although in young people with diabetes mellitus the quality of life was inadequate due to present pictures of anxiety and concern.

In a study carried out in Paraguay (Brítez and Torres, 2017), with 101 participants diagnosed with diabetes mellitus, they observed that 49% had a poor quality of life-related to their health and that 51% had a good quality of life.

Therefore, its research objective is to determine the quality of life in patients with diabetes mellitus treated in the outpatient clinic of a hospital in North Lima.

2. Methodology

Fig. 1 shows the flow chart of the protocols made by the health professionals.

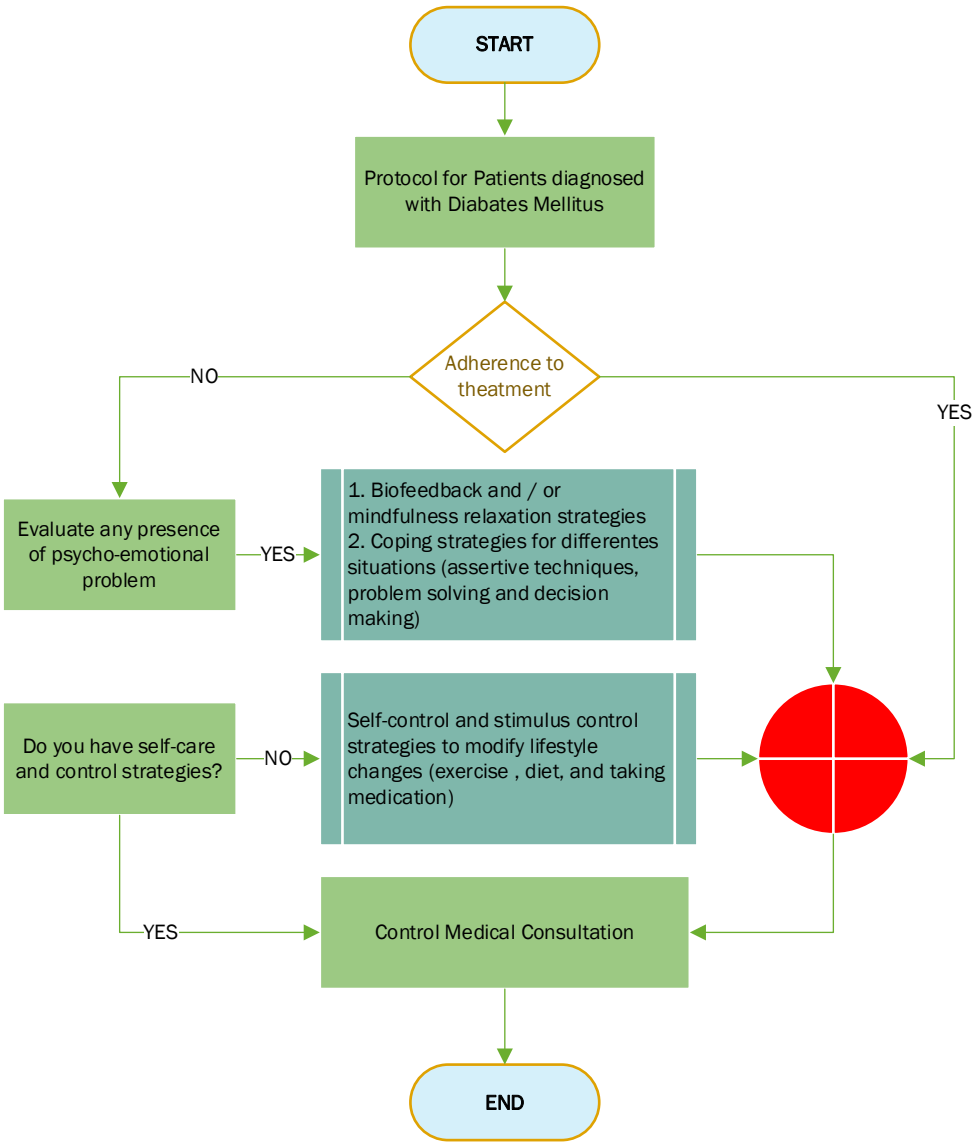

Fig. 1: Flow diagram of the protocol in a patient diagnosed with diabetes mellitus

This flow diagram as shown in Fig. 1, describes the steps to follow in a patient diagnosed with diabetes mellitus, to which we refer, it will be considered in 4 phases:

In the first place, it will be verified if the patient has good adherence to the treatment because at the time of adherence we will consider if the patient is committing to have adequate control to maintain their well-being

Second, any presence of psycho-emotional problem will be evaluated, where strategic processes will be carried out that will allow the patient to continue with the control of the disease, where relaxation and coping strategies will be important for the patient since the disease. It is something new that the patient will have throughout his life.

Third, it must be observed if the patient performs self-care and control of the disease since this will not

allow us to carry out strategies that allow self-control and control of stimuli that modify their lifestyle (exercise, diet, and taking medication)

Fourth, the patient will have its control medical consultation, in which a physical examination and laboratory examination will be performed to verify whether the disease is well controlled and cannot bring risks to the patient.

A. Research type and Design: The research for its properties is quantitative, in terms of its methodology it is descriptive, not experimental, cross-sectional (Hernández et al., 2018).

B. Population: The population is made up of a total of 113 patients treated in an outpatient clinic of a Hospital in North Lima.

C. Inclusion Criteria: Patients between 30 to 80 years old. Patients who attend the endocrinology office of the Hospital. Patients who voluntarily agree to participate in the study.

D. Technique and Instrument: The technique used was the survey, in which the Diabetes 39 data collection instrument was used to measure the quality of life in patients with diabetes mellitus treated in the outpatient clinic of a hospital in North Lima.

For data collection, it has been structured into 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 worry (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 effect at all", "2=almost nothing", "3=a little", "4=regular", "5=a lot", "6=too much", "7=tremendous affection", so the 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, which 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).

2.1. Place and application of the instrument

- First, we coordinated with the outpatient health professional to carry out the study and gave details about the research work.
- Second, the survey was conducted to measure the quality of life in patients, providing the necessary knowledge about the research study and filling in the survey.

3. Results

In Fig. 2, we can see that the quality of life in patients with diabetes mellitus attended the outpatient clinic, 18 (15.9%) of the patients presented a low quality of life, 67 (59.3%) have a medium quality of life and 28 (24.8%) have a high quality of life.

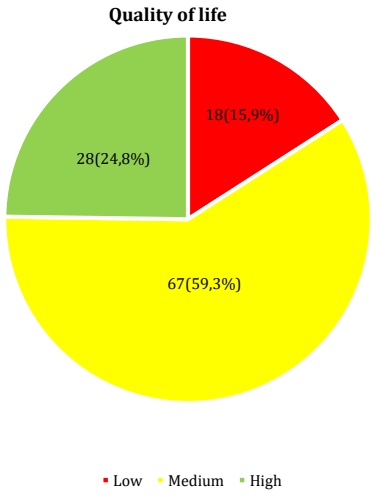

Fig. 2: Quality of life in patients with diabetes mellitus attended in the outpatient clinic of a hospital in North Lima

In Fig. 3, we observe that in patients with diabetes mellitus, 24 (21.2%) have a low quality of life, 77 (68.1%) have a medium quality of life and 12 (10.6%) have a high quality of life.

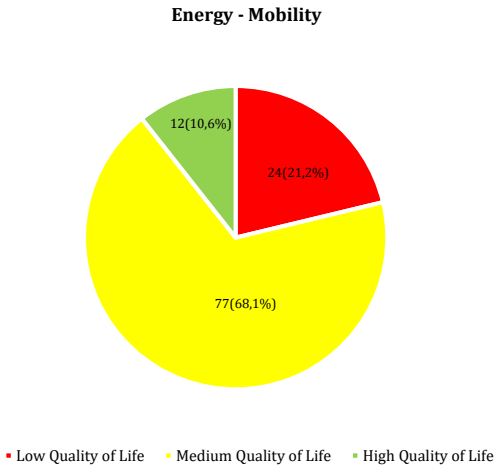

Fig. 3: Quality of life in its energy-mobility dimension in patients with diabetes mellitus attended in the outpatient clinic of a hospital in North Lima

In Fig. 4, we observe in relation to the control of diabetes in the patients, where 23 (20.4%) have a low quality of life, 64 (56.6%) have a medium quality of life and 26 (23%) have a high quality of life.

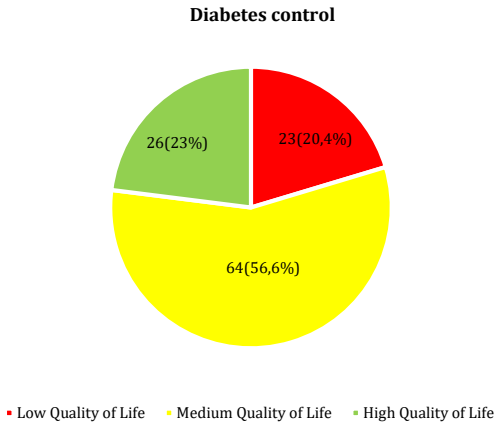

Fig. 4: Quality of life in its dimension control of diabetes in patients with diabetes mellitus attended in outpatient clinic of a hospital of North Lima

In Fig. 5, we observe that in the anxiety-worry dimension, 26 (23%) of the patients have a low quality of life, 60 (53.1%) have a medium quality of life and 27 (23.9%) have a high quality of life.

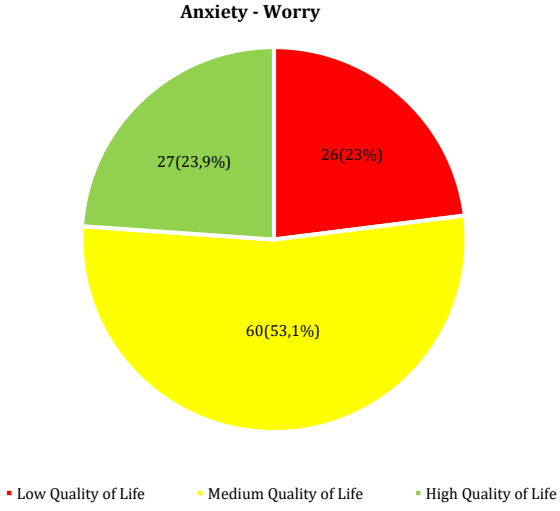

Fig. 5: Quality of life in its anxiety-worry dimension in patients with diabetes mellitus attended in the outpatient clinic of a hospital in North Lima

In Fig. 6, we observe that in the social burden dimension, 28 (24.8%) of the patients have a low quality of life, 61 (54%) medium quality of life, and 24 (21.2%) have a high quality of life.

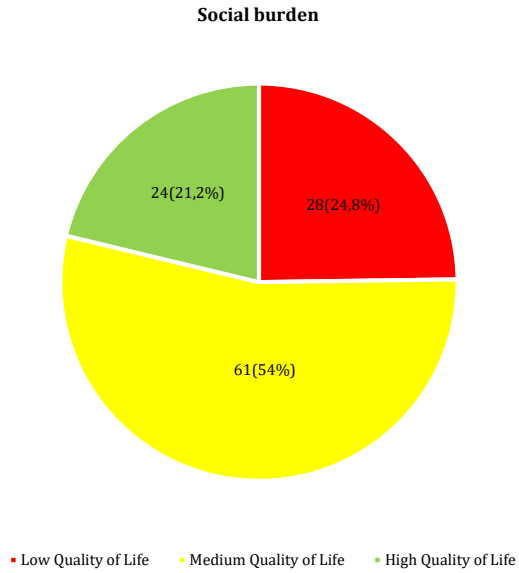

Fig. 6: Quality of life in its social burden dimension in diabetes mellitus patients attended in the outpatient consultation of a hospital in North Lima

In Fig. 7, we observe in the sexual functioning dimension that 37 (32.7%) of the patients have a low quality of life, 64 (56.6%) have a medium quality of life and 12 (10.6%) have a high quality of life.

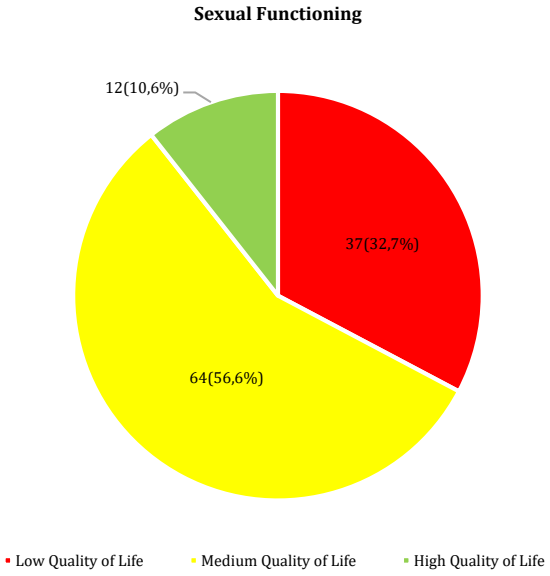

Fig. 7: Quality of life in its sexual functioning dimension in diabetes mellitus patients attended in the outpatient consultation of a hospital in North Lima

In Fig. 8, we observe that in females, 15 (83.3%) have a low quality of life, 26 (38.8%) have a medium quality of life, and 15 (50%) have a high quality of life; in males, 3 (16.7%) have a low quality of life, 41 (61.2%) have a medium quality of life and 14 (50%) have a high quality of life.

In Fig. 9, we observe that from 30 to 59 years old, 13 (72.2%) have a low quality of life, 29 (43.3%) have a medium quality of life and 3 (10.7%) have a high quality of life and from 60 to 80 years old, 5 (27.8%) have a low quality of life, 38 (56.7%) have a medium quality of life and 25 (89.3%) have a high quality of life.

4. Discussions

In the research study, it has been given from a metabolic and cardiovascular diseases approach, prioritizing the promotion and prevention of the health of the person diagnosed with diabetes mellitus and thus being able to improve their quality of life.

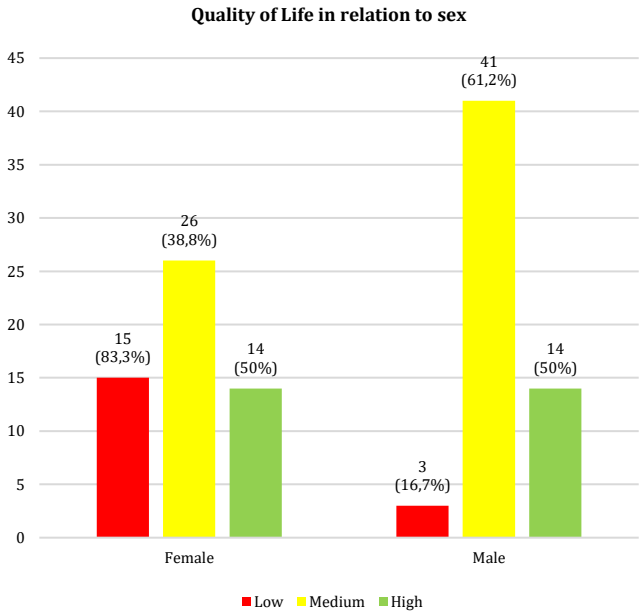

Fig. 8: Quality of life in relation to sex in patients with diabetes mellitus attended in the outpatient clinic of a hospital in North Lima

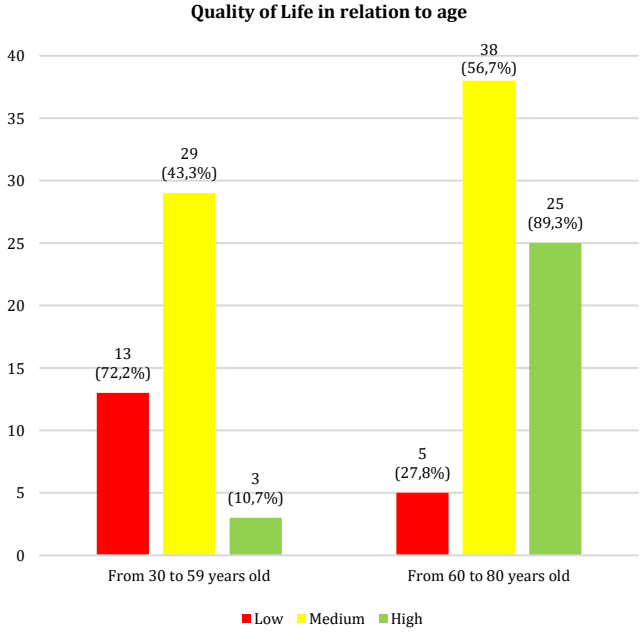

Fig. 9: Quality of life in relation to age in patients with diabetes mellitus attended in the outpatient clinic of a hospital in North Lima

In the quality-of-life results, we observe that most diabetic people have a medium quality of life, this is since during the stage where the patient with diabetes mellitus modify their eating behaviors, physical activity, and adherence to treatment it will allow raising their quality-of-life indexes since this prevents risks that could compromise their health even more. In Vilchez-Cornejo et al. (2020), the authors mentioned that the strategies that become the self-care of the patient with diabetes mellitus, will allow them to face the disease and make the correct decisions and that due to this, their mental and physical health and the family relationship, improve the healthy behaviors that they present, and it will maintain their healthy quality of life exposing them to all kinds of risks that can cause their health.

In relation to the dimensions, we observe that the patients have a medium quality of life, so this is due to the fact that in patients with diabetes mellitus, when changing their lifestyle, generates a conflict among themselves, since the routine and the intake of food that they consumed, tend to stay on the sidelines and due to the disease they present, they should not take risks if they do not consume what can make it worse, although in some cases, some patients tend not to perform what was given, then they tend to show signs that the disease is not controlled and can generate serious consequences. In Huayanay-Espinoza et al. (2021), the authors

mentioned that a patient with diabetes mellitus can cope with the disease if the family provides the necessary support since they are the sustenance so that their relative can improve since the emotional level is diminished due to the disease, but that if family support is present, the patient will adequately carry out the treatment in addition to the appropriate strategies to prevent risks of the disease.

In the results of quality of life according to age, we observe that the ages from 60 to 80 years old, tend to present a better quality of life, this is due to the fact that diabetes mellitus appears more in young people, due to the ease of carrying high levels of glucose in the blood, because young people are less aware of the disease, where the factors of an inadequate diet, alcohol consumption, sedentary lifestyle, and obesity, are factors that can lead to the disease, so it can compromise throughout their life with this disease. In Brítez and Torres (2017), the authors mentioned that being younger, the risks of developing diabetes mellitus are increased, this is because the excessive consumption of fat, sugars, and carbohydrates, increases the possibility of presenting metabolic and cardiovascular diseases, and that is mostly related to overweight and obesity, high blood pressure and high cholesterol, initiating a phase of diabetes mellitus.

5. Conclusion

It is concluded that education in diabetes patients should be prioritized in relation to their self-care since this will allow for a healthy lifestyle.

It is concluded that counseling should be given about changes in personal life with the presence of diabetes mellitus, since this compromises the mental health of the patient, affecting its quality of life.

It is concluded that home visits should be made to patients with diabetes mellitus without relatives since this will allow us to carry out educational activities that help the patient in their nutrition and their self-care.

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

Andrea N and Hurtado J (2016). Calidad de vida de los pacientes con Diabetes Mellitus tipo II. Unimar, 34(2): 89–103.

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 Torres DTE (2017). Calidad de vida en pacientes con diabetes mellitus tipo 2. Revista del Nacional (Itauguá), 9(1): 78-91. https://doi.org/10.18004/rdn2017.0009.01.078-091

de la Cruz JPS, Morales DLG, González-Castro TB, Tovilla-Zárate CA, Juárez-Rojop IE, López-Narváez L, and Rodriguez-Perez JM (2020). Quality of life of Latin-American individuals with type 2 diabetes mellitus: A systematic review. Primary Care Diabetes, 14(4): 317-334. https://doi.org/10.1016/j.pcd.2019.09.003 **PMid:31564515**

Dehvan F, Nasif FQ, Dalvand S, Ausili D, Dehkordi AH, and Gheshlagh RG (2021). Self-care in Iranian patients with diabetes: A systematic review and meta-analysis. Primary Care Diabetes, 15(1): 80-87. https://doi.org/10.1016/j.pcd.2020.08.013 **PMid:32921619**

Demla C, Thomas A, Jose J, Joshy AL, Hrishikesh MA, Rajendran A, and Parsekar SS (2021). Instruments measuring the quality of life among people living with type 2 diabetes mellitus in India: A systematic review protocol. BMJ Open, 11(4): e043831. https://doi.org/10.1136/bmjopen-2020-043831 **PMid:33811053 PMCid:PMC8023725**

Grigorescu ED, Lăcătușu CM, Crețu I, Floria M, Onofriescu A, Ceasovschih A, and Șorodoc L (2021). Self-reported satisfaction to treatment, quality of life and general health of type 2 diabetes patients with inadequate glycemic control from North-Eastern Romania. International Journal of Environmental Research and Public Health, 18(6): 3249. https://doi.org/10.3390/ijerph18063249 **PMid:33801100 PMCid:PMC8004112**

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**

Guamán D, Acosta W, Alvarez C, and Hasbum B (2021). Diabetes y enfermedad cardiovascular. Revista Uruguaya de Cardiología, 36(1): 36104. https://doi.org/10.29277/cardio.36.1.4

Hernández R, Fernández C, and Baptista M (2018). Metodología de la investigación. 6th Edition, McGraw Hill, New York. USA. https://doi.org/10.18041/978-958-8981-45-1

Huamán Macha V, Herrera Pandal A, Runzer-Colmenares FM, and Parodi JF (2020). Asociación entre diabetes mellitus tipo 2 y la mortalidad en adultos mayores con enfermedad cardiovascular. Horizonte Médico (Lima), 20(3): 1236. https://doi.org/10.24265/horizmed.2020.v20n3.03

Huayanay-Espinoza IE, Guerra-Castañon F, Reyes-Diaz M, Lazo-Porras M, de la Cruz-Luque C, Herrera DA, and Málaga G (2021). Calidad de vida y autoeficacia en pacientes con diabetes mellitus tipo 2 en un hospital público peruano. Medwave, 21(2): e8132. https://doi.org/10.5867/medwave.2021.02.8132 **PMid:33830978**

Inoue K, Watanabe J, and Kakehi E (2021). The influences of the environment and information on the complications of diabetes on patient outcomes. Health and Quality of Life Outcomes, 19: 161. https://doi.org/10.1186/s12955-021-01798-6 **PMid:34103056 PMCid:PMC8186221**

Jankowska A, Młyńczak K, and Golicki D (2021). Validity of EQ-5D-5L health-related quality of life questionnaire in self-reported diabetes: Evidence from a general population survey. Health and Quality of Life Outcomes, 19(1): 1-11. https://doi.org/10.1186/s12955-021-01780-2 **PMid:33952271 PMCid:PMC8097836**

Linari MA, González C, Dieuzeide G, Badia MF, Argerich MI, Echenique M, and Chan, D (2019). Calidad de vida y prestaciones en salud en pacientes con diabetes mellitus tipo 2 según región geográfica en Argentina. Revista de la Sociedad Argentina de Diabetes, 53(3): 87-96. https://doi.org/10.47196/diab.v53i3.160

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**

Reinoso GNS and Gavilanes ADV (2020). Aspectos psicosociales relacionados con la calidad de vida de adultos mayores que padecen de Diabetes Mellitus Tipo II. Revista Publicando, 7(24): 39-48.

Sari Y, Isworo A, Upoyo AS, Taufik A, Setiyani R, Swasti KG, and Kamaluddin R (2021). The differences in health-related quality of life between younger and older adults and its associated factors in patients with type 2 diabetes mellitus in Indonesia. Health and Quality of Life Outcomes, 19(1): 1-10. https://doi.org/10.1186/s12955-021-01756-2 **PMid:33863354 PMCid:PMC8052736**

Torres RE, Arévalo H, Suarez I, and Vega N (2021). Clinical profile trial of patients cared with diabetes mellitus type 2 in a reversion program. Revista de la Facultad de Medicina Humana, 21(1): 145-150. https://doi.org/10.25176/RFMH.v21i1.3432

Vilchez-Cornejo J, Romani L, Reategui S, Gomez-Rojas E, and Silva C (2020). Factores asociados a la realización de actividades de autocuidado en pacientes diabéticos en tres hospitales de Ucayali. Revista de la Facultad de Medicina Humana, 20(2): 254-260. https://doi.org/10.25176/RFMH.v20i2.2902

WHO (2020). Diabetes. World Health Organization, Geneva, Switzerland.