QUALITY OF LIFE AND TYPE 2 DIABETES BY EQ-5D-5L: INTEGRATIVE REVIEW

QUALIDADE DE VIDA E DIABETES TIPO 2 PELA EQ-5D-5L: REVISÃO INTEGRATIVA

CALIDAD DE VIDA Y DIABETES TIPO 2 SEGÚN EQ-5D-5L: REVISIÓN INTEGRATIVA

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ABSTRACT

Analyze the scientific publications on the EQ-5D-5L scale that assesses QoL in patients with type 2 Diabetes Mellitus. This is an integrative review built through the intersection of the following Health Sciences Descriptors (DeCS/MeSH): "Type 2 Diabetes Mellitus"; "Quality of life"; "Impact"; "Personal satisfaction" and their English equivalents "Type 2 Diabetes Mellitus", "Quality of life", "Impact" and "Personal satisfaction". The terms were combined using the Boolean operators "and" or "or". Data collection took place from September to October 2023. Manuscripts published between 2006 and 2023, which consisted of quantitative studies written exclusively in English, were meticulously examined. That analysis encompassed eight investigations that converged on the conclusion that patients diagnosed with DM2 have a compromised QoL. A notable aspect highlighted by the studies is the disparity between men and women affected by DM2, with women experiencing a particularly significant reduction in quality of life. That phenomenon was quantified using the EQ-5D-5L scale. Those results highlight the importance of differentiated and personalized approaches for both sexes in the management and support of patients with DM2. Exploring the different dimensions of quality of life in patients with DM2 goes beyond a mere challenge; represents a significant advance for the multidisciplinary team, emphasizing the importance of a collective approach. This expanded perspective enables a more comprehensive understanding of the needs and impacts on patients' lives, encouraging more integrated and effective action by health professionals.
Keywords: *Type 2 Diabetes Mellitus. Quality of life. Impact. Personal satisfaction.*

RESUMO

Analisar o que há de publicações científicas sobre a escala EQ-5D-5L que avalia a QV em pacientes Diabetes Mellitus tipo 2. Trata-se de uma revisão integrativa construída a partir do cruzamento dos seguintes descritores em Ciências da Saúde (DeCS/MeSH): "Diabetes Mellitus tipo 2"; "Qualidade de vida"; "Impacto"; "Satisfação pessoal" e seus correspondentes em inglês "Type 2 Diabetes Mellitus", "Quality of life", "Impact", "Personal satisfaction". Os termos foram associados por intermédio dos indicadores booleanos "e" ou "and". A coleta de dados ocorreu durante o período de setembro a outubro de 2023. Manuscritos publicados no período de 2006 a 2023, que consistiram em estudos quantitativos redigidos, exclusivamente, em inglês, foram meticulosamente examinados. Essa análise englobou oito investigações que convergiram para a conclusão de que pacientes diagnosticados com DM2 apresentam uma QV comprometida. Um aspecto notável ressaltado pelos estudos é a disparidade existente entre homens e mulheres afetados pela DM2, visto que as mulheres experimentam uma redução particularmente significativa na QV. Esse fenômeno foi quantificado por meio da utilização da escala EQ-5D-5L. Esses resultados sublinham a importância de abordagens diferenciadas e personalizadas para ambos os sexos no gerenciamento e no suporte a pacientes com DM2. Explorar as diversas dimensões da QV em pacientes com DM2 transcende um mero desafio; representa um avanço significativo para a equipe multiprofissional, enfatizando a importância de uma abordagem coletiva. Essa perspectiva expandida possibilita uma compreensão mais abrangente das necessidades e dos impactos na vida dos pacientes, fomentando uma atuação mais integrada e eficaz por parte dos profissionais de saúde.
Descritores: *Diabetes Mellitus tipo 2. Qualidade de Vida. Impacto. Satisfação Pessoal.*

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RESUMEN

Analizar las publicaciones científicas sobre la escala EQ-5D-5L que evalúa la CV en pacientes con Diabetes Mellitus tipo 2. Esta es una revisión integrativa construida a partir del cruce de los siguientes riptores en Ciencias de la Salud (DeCS/MeSH): "Diabetes Mellitus tipo 2"; "Calidad de vida"; "Impacto"; "Satisfacción personal" y sus equivalentes en inglés "Type 2 Diabetes Mellitus", "Quality of life", "Impact" y " Personal satisfaction". Los términos fueron asociados utilizando los operadores booleanos "y" o "and". La recopilación de datos se realizó de septiembre a octubre de 2023. Se examinaron meticulosamente manuscritos publicados entre 2006 y 2023, que consistían en estudios cuantitativos escritos exclusivamente en inglés.Este análisis abarcó ocho investigaciones que convergieron en la conclusión de que los pacientes diagnosticados con DM2 tienen una calidad de vida comprometida. Un aspecto notable destacado por los estudios es la disparidad entre hombres y mujeres afectados por DM2, y las mujeres experimentan una reducción particularmente significativa en la calidad de vida. Este fenómeno se cuantificó mediante la escala EQ-5D-5L. Estos resultados resaltan la importancia de enfoques diferenciados y personalizados para ambos sexos en el manejo y apoyo de los pacientes con DM2. Explorar las diferentes dimensiones de la calidad de vida en pacientes con DM2 va más allá de un mero desafío; representa un avance significativo para el equipo multidisciplinario, enfatizando la importancia de un enfoque colectivo. Esta perspectiva ampliada permite una comprensión más integral de las necesidades y los impactos en la vida de los pacientes, fomentando una acción más integrada y eficaz por parte de los profesionales de la salud.

Descriptores: *Diabetes Mellitus Tipo 2. Calidad de vida. Impacto. Satisfacción personal.*

INTRODUCTION

Quality of life (QoL) has become an important criterion for evaluating the effectiveness of treatments and interventions in the health field. QoL indicators have been used to verify the impact of chronic diseases on people's daily lives. To do this, it is necessary to assess indicators of physical functioning, social aspects, emotional and mental state and individual perception of well-being[1].

Diabetes Mellitus (DM) stands out as a chronic disease in which the concept of QoL takes on great importance. According to the Brazilian Diabetes Society[2], the global prevalence of DM is significant, with an estimated 366 million people affected by the condition in 2011, and this figure is expected to double by 2030[3].

DM represents a significant public health challenge, affecting approximately 16 million people in Brazil between the ages of 20 and 79. Prospective studies indicate a tendency for this health condition to increase in the country. In addition to the direct impact on individuals' QoL, DM also exerts considerable economic pressure on countries and their health systems. These data highlight the relevance of approaches aimed not only at controlling the disease, but also at promoting the QoL associated with this condition[4].

This study focuses on Type 2 Diabetes Mellitus (DM2), a more prevalent form in adults, associated with factors such as obesity, dyslipidemia, systemic arterial hypertension (SAH) and family history[5]. For patients with DM2, the main challenge lies in the need to adopt a new lifestyle after diagnosis in order to reduce complications[6]. DM has a substantial impact on an individual's life, affecting both physical and emotional well-being. Over time, the disease can reduce the individual's autonomy and, consequently, impact on their self-confidence, which can cause changes in QoL as the disease progresses[7].

Interest in the study of QoL has seen a significant increase in various areas of human activity. The concept of QoL is characterized by its subjective and multidimensional nature, and is influenced by a variety of factors related to education, the economy and socio-cultural factors. To date, there is no universal consensus on its

definition, which highlights the complexity and diversity of elements that are important for the perception and assessment of QoL[8].

The search for QoL is one of the main objectives in current clinical trials. With the development of new approaches to the treatment and prevention of diseases, the need has arisen to establish standardized criteria for evaluating this concept. To achieve such standardization, the healthcare team had to conceptualize QoL. This definition needed to be comprehensive enough to be applied to any individual, regardless of their physical condition, whether they were an elite athlete, a worker, a clerk, a dancer, an elderly person, a young person or any other category[9].

In this sense, scales have been used to measure the QoL of patients with DM. The instruments used to assess QoL have been developed for the most diverse purposes and indications, using generic health status scales and scales specific to a particular disease[10].

The EuroQol scale with 5 dimensions, developed by the EuroQol Group, has 5 levels (EQ-5D-5L) and is a generic measure of health based on preferences, playing a crucial role in healthcare decision-making. This scale consists of 5 dimensions, signaled in the acronym by the letter D *(dimension)* and 5 levels of problems, expressed in the acronym by the letter L *(level)*. The dimensions are mobility, self-care, usual activities, pain/discomfort and anxiety/depression and the problem levels are no problems, mild problems, moderate problems, severe problems and extreme problems[11].

Given this context, the following question was posed: "What is the state of the art of scientific publications using the EQ-5D-5L scale to assess the quality of life of individuals with type 2 diabetes mellitus?"

Thus, the relevance of the subject is highlighted by the complexity of DM2 and its global influence in terms of incidence. By adopting a multi-professional approach and expanding the clinical focus, health professionals can make a significant contribution to coping with this condition, mitigating the risks associated with psychological disorders and promoting a more complete and integrated approach to patients' health.

In view of the above, this study aims to analyze scientific publications on the EQ-5D-5L scale for assessing QoL in patients with DM2.

METHODS

This study is an integrative review of the literature that has made it possible to provide broader information on a specific subject. The integrative review is a very broad methodological approach to reviews, allowing the inclusion of experimental, non-experimental studies, data from empirical and theoretical literature for a complete understanding of the phenomenon to be analyzed[12].

This type of study is organized through the following phases: choosing the topic and drafting the guiding question; explaining the inclusion and exclusion parameters; collecting data using an instrument; analyzing the data; discussing and presenting the results[13].

The guiding question of the study was: "What is the state of the art of scientific publications using the EQ-5D-5L scale to assess the quality of life of individuals with type 2 Diabetes Mellitus?"

The search for articles in the literature was carried out in the following databases: Latin American and Caribbean Health Sciences Literature (LILACS), Scientific Electronic Library Online (SCIELO) and U. S. National Library of Medicine (PUBMED). The search was carried out by cross-referencing the following Health Sciences Descriptors (DECS) and *Medical Subject Headings* (MeSH): "Type 2 Diabetes Mellitus"; "Quality of life"; "Impact"; "Personal satisfaction" and their English counterparts *"Type 2 Diabetes Mellitus", "Quality of life", "Impact" and "Personal satisfaction"*. The terms were cross-referenced using the Boolean indicators "*and*" or "*and*".

The inclusion criteria were original electronic articles available in full, published between 2006 and 2023, in Spanish and English, with free access and which were in line with the research objective. The time frame was delimited after analyzing the period in which most of the publications were concentrated. The exclusion criteria were review articles, books, term papers, theses, dissertations and conference proceedings[14].

Data was collected between September and October 2023, using the adapted data collection instrument, based on the article by Ursi[15].

The study was limited by the scarcity of available articles, since there is a low incidence of specific publications on the 5Q-5D-5L scale. The scarcity of relevant material made it difficult to obtain a more comprehensive sample for analysis.
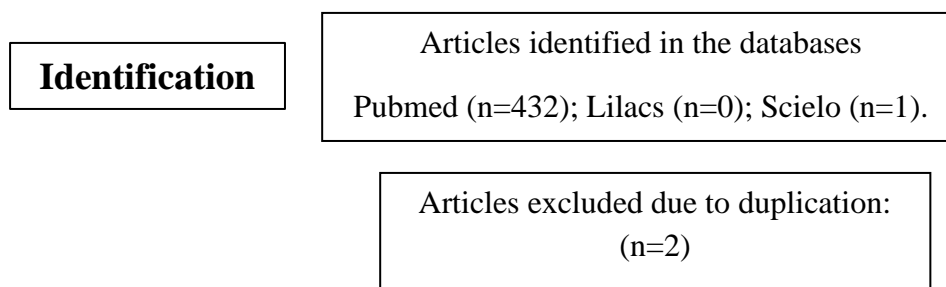
After selecting the publications based on the inclusion criteria, the articles were organized and distributed in a table in ascending order of publication by the following topics: title, authorship / year of publication, journal, type of publication and results, allowing the different ideas set out in the publications analyzed to be compared (table 2).

RESULTS

The preliminary search for articles resulted in 432 publications in PUBMED, 1 in SCIELO and 0 in LILACS. After reading the articles in full, according to the inclusion criteria, 8 studies were selected, showing a predominance of publications in international journals belonging to the field of medicine.

The process of searching and selecting the sample was shown, enabling a better understanding through a methodological path adapted from the *Preferred Reporting Items for Systematic Reviews and MetaAnalyses*[16] (PRISMA) flowchart (Figure 1).

Figure 1 - Flowchart of the research process for the study.

Identification	Articles identified in the databases Pubmed (n=432); Lilacs (n=0); Scielo (n=1).

	Articles excluded due to duplication: (n=2)

Selection	Articles selected after inclusion criteria. (n=20)

Eligibility	Selected articles after reading in full. (n=8)

Inclusion	Articles included in the review. (n=8)

Source: Own authorship.

All the studies selected were published in English. As for the year of publication, there were a greater number of articles after 2012, all of which had a quantitative approach.

The study focused on publications that used the EQ-5D-5L scale as an assessment tool. It uses a numerical stratification that correlates with the levels of problems in each dimension assessed. The assessment has been adjusted to take into account Quality Adjusted Life Years (QALYs), offering a comprehensive view of health progress that reflects social preferences and adapts to the specific realities of different countries. This metric has played a key role in economic analyses of health programs and in the provision of care to patients in need of medical assistance. Its unique approach condenses both length of life (mortality) and QoL (morbidity) into a simple numerical index[17].

Chart 1 - Quantitative stratification of the domains of the EQ-5D-5L scale used in the study.

Scale	Levels	Score
EQ-5D-5L	No problem	1
	Mild problems	2
	Moderate problems	3
	Serious problems	4
	Extreme problems	5

Source: Own authorship.

After a thorough reading of the studies, the themes that emerged were grouped together in Table 2, which shows that DM2 is associated with a worsening quality of life in all the studies evaluated, and is related to gender, socioeconomic status, income, marital status and schooling

Chart 2 - Description of the articles showing the association of type 2 diabetes with worsening quality of life according to the EQ-5D-5L scale.

Title	Author/Year	Journal	Results
Health-related quality of life and its associated factors in patients with type 2 diabetes mellitus.	Zare et al, 2020.	SAGE open medicine.	This study found that the QoL of Iranian outpatients with DM2 using the EQ-5D-5L scale ranged from 0.75 ± 0.006 to 0.72 ± 0.2 and VAS scores of 69.25 ± 0.63 and 75 ± 30 were considered moderate. In addition, it was found that women have lower scores due to their level of education, income, age, marital status and sociodemographic factors, compared to men who have a work and study routine.
Health-related quality of life in type-2 diabetes patients: a cross-sectional study in East China.	Lu et al, 2017.	BMC Endocrine Disorders.	This study found that the QoL of Chinese patients with DM2, both clinical and outpatient, from communities with both high and low economic status, using the EQ-5D-5L and VAS scales, scored 0.922 ± 0.122 and 73.56 ± 12.71, respectively, while patients without the disease scored 0.939 ± 0.111 and 80.06 ± 11.58, indicating a poor QoL that may be correlated with various factors, including age, gender, level of education and marital status, which are associated with a reduction in QoL.
The quality of life of the patients with diabetes type 2 using EQ-5D-5 L in Birjand.	Abedini et al, 2020.	Health and Quality of Life Outcomes	According to the study, in Birjand, Iran, patients with DM2 were assessed in a clinic using the EQ-5D-5L and VAS scales, and the following values were obtained: 0.89 ± 0.13 and 65.22 ± 9.32, respectively, which is considered a poor QoL. It should be noted that the best scores were obtained by patients who lead active lives, work, study, have a higher standard of living and, consequently, have access to quality care.
Health-Related Quality of Life Using the EuroQol 5D Questionnaire in Korean Patients with Type 2 Diabetes.	Lee et al, 2012.	J Korean Med Sci.	In this study, the EQ-5D-5L scale was evaluated according to the validity of its Korean version to measure the QoL of patients with DM2 in outpatient clinics, where the participants were men and women aged 57.5 and 57.7 years, with a score of 0.93 ± 0.90 respectively, with an average considered to be poor QoL. In addition, important factors such as obesity, complications, gender, age and schooling are conditions that reduce the QoL of these patients.
Relationship of treatment satisfaction to health-related quality of life among Palestinian patients	Zyoud et al, 2015.	Journal of Clinical & Translational Endocrinology 2.	The study investigated the relationship between satisfaction with treatment and the QoL of patients with DM2 in an outpatient clinic in Palestine, using the EQ-5D-5L scale, which obtained a mean

with type 2 diabetes mellitus: Findings from a cross-sectional study.			of 0.7 ± 0.20 and a VAS score of 63.7 ± 19.2, considered a poor QoL. It can be seen that sociodemographic, social and socioeconomic factors, age and comorbidities represent significant obstacles to a better life.
Measurement of HRQL Using EQ-5D in Patients with Type 2 Diabetes Mellitus in Japan.	Saramaki et al, 2006.	Value in Health.	This study found that Japanese patients with DM2, assessed in a medical clinic using scales that measure QoL, including the EQ-5D-5L with an average of 0.81 ± 0.92, scored slightly lower in women and in patients with at least one complication, indicating a poor QoL.
Health Related Quality of Life in Patients with Type 2 Diabetes Mellitus in Iran: A National Survey.	Javanbakht et al, 2012.	PLOS ONE.	According to a study carried out on the assessment of QoL in patients with DM2 living in urban and rural areas in Iran, it was observed that women have a significantly lower QoL compared to men, which was indicated as poor QoL. The average scores on the EQ-5D-5L and VAS scales were 0.69 ± 0.71 and 56.1 ± 57.5, respectively.
Health Related Quality of Life among Omani Men and Women with Type 2 Diabetes.	D´Souza et al, 2015.	Journal of Diabetes Research.	The study assessed the QoL of patients with DM2 who are followed up at a medical clinic in Oman, and compared this quality between men and women over 18 with the disease, using the EQ-5D-5L scales with scores of 0.75 ± 0.91. The results indicated that women scored higher compared to men, considering various aspects such as age, level of education, performance in daily activities and ability in definitive management, as well as the overall experience with the disease.

Source: Own authorship.

DISCUSSION

The studies indicated that patients diagnosed with DM2, as assessed by the EQ-5D-5L scale, had poor QoL. This impairment seems to be associated with variables such as gender, age and level of education[18].

The EQ-5D-5L is a generic measure widely used to assess health-related quality of life (HRQoL). Its application covers the determination of utility weight, and it is particularly useful in measuring decreases in quality-adjusted life years (QALYs) due to health conditions. In specific studies related to patients with DM2, the EQ-5D-5L has been used as a valuable tool to estimate the HRQoL of these individuals[19].

The application of the EQ-5D-5L scale in the studies reviewed with individuals with DM2 consistently pointed to results that indicated a poor QoL. Several factors have been identified as influencing this scenario, including aspects such as gender, age, education and socioeconomic status, especially among women[20].

In this sense, studies[21,25] have indicated that QoL can be perceived differently between men and women with DM. The literature suggests that women with DM may face specific challenges compared to men, reflected in differences in health-related QoL in the general population. It was found that women reported lower levels of satisfaction with their DM treatment regimen. In addition, they were more likely to miss work and participate in fewer leisure activities due to their health condition, compared to men[21].

However, one publication contradicts this trend by suggesting that women actually enjoy a superior QoL compared to men in the context of DM2. The central argument of this perspective is that women tend to adopt more proactive practices in relation to disease management, engaging in preventive measures such as regular blood glucose monitoring, regular exercise and healthier dietary choices. This proactive approach can contribute to a significant improvement in QoL, defying the expectations set by previous studies. This apparent paradox has highlighted the complexity of the impact of different factors on DM2-related QoL and highlighted the continued need for research to fully understand these dynamics[3].

Based on this observation, the analysis of several articles highlighted that gender emerges as a restrictive element for improving QoL in patients with DM2. Notably, women with low levels of education and those who are unemployed face more significant challenges in this scenario[22,23,24]. As studies show[25], lack of formal education, unemployment and age in this group of patients are correlated with a more marked deterioration in QoL.

From this perspective, the disparities in QoL between women and men with DM2 can be attributed, in part, to the greater risk of women facing the development of cardiovascular diseases, as well as the higher prevalence of depression or anxiety compared to men. In addition, women face additional challenges, such as greater difficulty in incorporating regular physical exercise and an overload of responsibilities in domestic activities. These additional commitments can result in negative physical and psychological impacts, contributing to a lower QoL compared to men[26].

However, one publication reported that women with more schooling, improved DM management skills, older age, a moderate level of prevention in activities of daily living, a broader knowledge of DM and its management, as well as increased physical activity and consistent use of medication, stood out as influential factors in women's QoL and health status compared to men. This condition contributes significantly to improving the QoL and health status of women as they face the challenges associated with DM2[3].

One study[27] consistently highlighted impaired mobility as a factor associated with poor QoL. In particular, it emphasized the significant importance of mobility in this context, highlighting that the ability to get around plays a crucial role in determining QoL in patients with DM2. This research highlighted the relevance of mobility as a major element in the overall impact of the disease on the QoL of these patients, underlining the need to consider and address this aspect when planning interventions and care strategies.

Another crucial factor to consider is the patient's economic situation. Income and unemployment are persistent variables that are strongly associated with low adherence to treatment. Studies have shown significantly lower adherence to dietary treatment among DM patients living in high-risk, specific areas of high social vulnerability and belonging

to lower social classes. These results confirm that limited access to food, especially among lower-income individuals, has a decisive negative impact on DM treatment[28].

Given this context, it is clear that it is important for nurses to have an in-depth understanding of QoL, in order to provide patient-centered care that aims to improve their health condition. This knowledge not only enriches professional practice, but also allows nurses to adopt more holistic and personalized approaches, considering not only clinical aspects, but also the physical, emotional, social and cultural dimensions that influence the patient's QoL. By integrating this perspective into the provision of care, nurses make a significant contribution to promoting well-being and improving the general health status of the individuals under their responsibility[29].

In order to promote more effective patient adherence to treatment, it is imperative that nursing professionals transcend the paradigm of exclusively drug-based care and adopt a more comprehensive approach to established therapy. In this sense, it is essential to consider the various aspects involved in caring for patients, including cultural factors. Nursing professionals must play an active role in promoting changes in unhealthy lifestyle habits and in deconstructing mistaken customs and beliefs related to the disease and treatment[28], collaborating in the construction of an individualized plan that considers the diabetic person as a protagonist and co-responsible for their self-care and capable of building their QoL[30] .

This study had some limitations. Firstly, there was the limited number of studies available on the subject, which may have an impact on the breadth and generalization of the results obtained. In addition, it is important to note that the use of only one scale in the measurement may limit the comprehensive understanding of the phenomenon under study.

The research highlighted the importance of health professionals having knowledge about assessing patients' QoL. This highlights the need to develop skills in this area, with a view to a more complete and effective approach to patient care.

CONCLUSION

It compiled information on the application of the EQ-5D-5L scale in individuals diagnosed with DM2, showing a correlation between this condition and poor QoL attributed to factors that impact daily activities. The data collected revealed that women with DM2 experienced a decrease in QoL scores compared to men affected by the same condition. This disparity was associated with variables such as educational level, age group, and socioeconomic status, indicating the presence of multifactorial influences on the QoL of these patients.

The results highlight the importance of considering not only the clinical condition but also socioeconomic and demographic factors when addressing QoL in patients with DM2. This more comprehensive approach can guide personalized intervention and management strategies aimed at meeting the specific needs of different population groups affected by this pathology.

Despite the limitations, the research made it possible to recognize the importance of the health team being aware of how to assess the patient's QoL, highlighting the need for skills in this area for a more comprehensive and effective approach.

REFERENCES

1.Chibante CL de P, Sabóia VM, Teixeira ER, da Silva JLL. Qualidade de vida de pessoas com Diabetes Mellitus. Rev. baiana enferm. [Internet]. 19º de dezembro de 2014;28(3). Disponível em: https://periodicos.ufba.br/index.php/enfermagem/article/view/11909.

2.Rodacki M, Teles M, Gabbay M, Montenegro R, Bertoluci M. Classificação do diabetes. Diretriz Oficial da Sociedade Brasileira de Diabetes (2022). DOI: 10.29327/557753.2022-1.

3.D'Souza MS, Venkatesaperumal R, Ruppert SD, Karkada SN, Jacob D. Health-related quality of life among Omani men and women with type 2 diabetes. J Diabetes Res. 2016; 2016:8293579. DOI: 10.1155/2016/8293579.

4.Sociedade Brasileira de Diabetes. Diretrizes da Sociedade Brasileira de Diabetes 2019-2020. São Paulo (SP): Clannad; 2020

5.Bernini LS, Barrile SR, Mangili AF, Arca EA, Correr R, Ximenes MA, et al. O impacto do Diabetes Mellitus na qualidade de vida de pacientes da Unidade Básica de Saúde. Cad. Bras. Ter. Ocup. São Carlos. 25(3), 533–541. Disponível em: https://doi.org/10.4322/2526-8910.ctoAO0899.

6.Assunção SC, Fonseca AP, Silveira MF, Caldeira AP, Pinho L de. Knowledge and attitude of patients with diabetes mellitus in Primary Health Care. Esc Anna Nery [Internet]. 2017;21(4): e20170208. Available from: https://doi.org/10.1590/2177-9465-EAN-2017-0208.

7.Diaz N, Moreira PB, Haluch RF, Ravazzani AC, Kusma SZ. Impacto do Diabetes Mellitus tipo 2 na qualidade de vida. Rev. Médica da UFPR [internet]. 5° de dezembro de 2016 [citado 5° de novembro de 2023]; 3(1):5-12. Disponível em: https://revistas.ufpr.br/revmedicaufpr/article/view/46380/pdf.

8.Pinto-Neto AM, Conde DM. Qualidade de vida. Rev Bras Ginecol Obstet [Internet]. 2008Nov;30(11):535. doi: 10.1590/s0100-72032008001100001

8.Nobre MRC. Qualidade de vida. Arq Bras Cardiol. 1995; 64(4):299-300.

10.Braga NS, Silveira VFSB, Xiol Morais Gonçalves NE. Impacto do diabetes mellitus na qualidade de vida dos portadores: uma pesquisa por meio de redes sociais. CiPraxis [Internet]. 7º de novembro de 2019 [citado 5º de novembro de 2023];12(23):33-40. Disponível em: https://revista.uemg.br/index.php/praxys/article/view/4091.

11-Janssen MF, Pickard AS, Golicki D, Gudex C, Niewada M, Scalone L, Swinburn P, Busschbach J. Measurement properties of the EQ-5D-5L compared to the EQ-5D-3L across eight patient groups: a multi-country study. Qual Life Res. 2013 Sep;22(7):1717-27. doi: 10.1007/s11136-012-0322-4. Epub 2012 Nov 25. PMID: 23184421; PMCID: PMC3764313.

12.Oliveira MR de, Orsini M. Escalas de avaliação da qualidade de vida em pacientes brasileiros após acidente vascular encefálico. Rev Neurocienc [Internet]. 30º de setembro de 2009 [citado 5º de novembro de 2023];17(3):255-62. Disponível em: https://periodicos.unifesp.br/index.php/neurociencias/article/view/8550.

13.Souza MT, Silva MD, Carvalho R. Revisão integrativa: o que é e como fazer. Einstein (São Paulo) [internet]. 2010 [citado 2022-10-9]; 8(1):102-6. Disponível em: https://doi.org/10.1590/s1679-45082010rw1134.

14.Ercole FF, Melo LS, Alcoforado CL. Revisão integrativa versus revisão sistemática. Revista Mineira de Enfermagem [internet]. 2014 [citado 2022-10-12]; 18(1): 2316-9389. Disponível em: http://dx.doi.org/10.5935/1415-2762.20140001.

15.Ursi ES. Prevenção de lesões de pele no perioperatório: revisão integrativa da literatura. [dissertação]. Ribeirão Preto: Universidade de São Paulo, Escola de Enfermagem de Ribeirão Preto; 2005.

16.1. Page MJ, McKenzie J, Bossuyt P, Boutron I, Hoffmann T, mulrow cindy, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews [Internet]. MetaArXiv; 2020. Available from: osf.io/preprints/metaarxiv/v7gm2

17.Lu Y, Wang N, Chen Y, et al. Qualidade de vida relacionada à saúde em pacientes com diabetes tipo 2: um estudo transversal no leste da China. BMC Endocr Disord 17, 38 (2017). https://doi.org/10.1186/s12902-017-0187-1.

18.Pinho MM, Veiga PACV. Avaliação de custo-utilidade como mecanismo de alocação de recursos em saúde: revisão do debate. Cadernos de Saúde Pública, v. 25, n. 2, p. 239-250, 2009.

19.Abedini, M.R., Bijari, B., Miri, Z. et al. A qualidade de vida dos pacientes com diabetes tipo 2 usando EQ-5D-5 L em Birjand. Resultados de saúde e qualidade de vida 18, 18 (2020). https://doi.org/10.1186/s12955-020-1277-8

20. Devlin NJ, Brooks R. EQ-5D e o Grupo EuroQol: Passado, Presente e Futuro. Política de Saúde Appl Health Econ 15, 127–137 (2017). https://doi.org/10.1007/s40258-017-0310-5.

21.Lee WJ, Kee-Ho S, Jung HN, Yon JC, Min-Woo J. Health-related quality of life using the EuroQol 5D questionnaire in Korean patients with type 2 diabetes. Journal of Korean medical science, v. 27, n. 3, p. 255-260, 2012.

22.Zare F, Ameri H, Madadizadeh F, Reza Aghaei M. Qualidade de vida relacionada à saúde e seus fatores associados em pacientes com diabetes mellitus tipo 2. SAGE Medicina Aberta. 2020;8. doi: 10.1177/2050312120965314.

23.Rubin RR, Peyrot M. Quality of life and diabetes. Diabetes/metabolism research and reviews, v. 15, n. 3, p. 205-218, 1999.

24.Zyoud SH, Al-Jabi S, Sweileh WM, Arandi DA, Dabeek SA, Esawi HE et al. Relationship of treatment satisfaction to health-related quality of life among Palestinian patients with type 2 diabetes mellitus: Findings from a cross-sectional study. Journal of Clinical & Translational Endocrinology. 2. 10.1016/j.jcte.2015.03.002.2015.

25.Sakamaki H, Ikeda S, Ikegami N, Uchigata Y, Iwamoto Y, Origasa H, et al. Medição de QVRS usando EQ-5D em pacientes com diabetes mellitus tipo 2 no Japão. Valor em Saúde, 9: 47-53. https://doi.org/10.1111/j.1524-4733.2006.00080.x.(2006).

26.Jarab AS, Alefishat E, Mukattash TL, Albawab AQ, Farha RKA, McElnay JC. Exploring variables associated with poor health-related quality of life in patients with type 2 diabetes in Jordan. Journal of Pharmaceutical Health Services Research, Volume 10, Edição 2, junho de 2019, páginas 211–217, https://doi.org/10.1111/jphs.12255

27.Cunha AM, Pires RCV, Monteiro MF, Reis ECS, Fonseca AJR, Pinto YB,et al. Fatores socioeconômicos interferentes na adesão ao tratamento dietoterápico de pacientes com diabetes mellitus tipo 2. REAS [Internet]. 3jun.2021 [citado 8dez.2023];13(6):e7452. Available from: https://acervomais.com.br/index.php/saude/article/view/7452.

28.Rodrigues JA, Lima FJS, Santos AG. Atuação do enfermeiro com pacientes com diabetes mellitus na melhoria da qualidade de vida. Revista de Atenção à saúde, v. 13, n. 46, p. 84-90, oi: 10.13037/rbcs.vol13n46.3102.ISSN 2359-4330. 2015.

29.Javanbakht M, Abolhasani F, Mashayekhi A, Baradaran HR, Noudeh YJ.Health Related Quality of Life in Patients with Type 2 Diabetes Mellitus in Iran: A National Survey. PLOS ONE 7(8): e44526. https://doi.org/10.1371/journal.pone.0044526.2012.

30.Pereira MAE, Wengert M, Sousa LGPC, Souza FA, Carvalho MS, Bernardo LD. Autocuidado em Diabetes por usuários de um serviço de Atenção Primária. Cadernos ESP [Internet]. 2022; 16(1):10-17. Disponível em: https://cadernos.esp.ce.gov.br/index.php/cadernos/article/view/513.