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ORIGINAL ARTICLE

QUALITY ASSESSMENT OF ELDERLY LIVING WITH DIABETES MELLITUS

AVALIAÇÃO DA QUALIDADE DE VIDA DE IDOSOS COM DIABETES MELLITUS

EVALUACIÓN DE CALIDAD DE VIDA DE ANCIANOS CON DIABETES MELLITUS

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ABSTRACT

Objective: to evaluate quality of life (QOL) of elderly patients with diabetes mellitus (DM), according to WHOQOL-Old. ***Method***: observational study with a quantitative approach held in Family Health Units of Cuité/PB, with 51 elderly. Data were collected with the use of WHOQOL-Old and sociodemographic questionnaires. The research project was approved by the Research Ethics Committee, CAAE 21901713.6.0000.5182. ***Results***: the average of the facets show the best performance for "past, present and future activities" (66.18%) and the worst score for the facet "sensory function" (37.50%). The Transformed Score of the Facet (ETF) reveals a pattern intermediate of QV for elderly people with DM (51.51%). ***Conclusions***: Family Health Teams should be responsible for promoting better QV for elderly diabetics, strengthening and optimizing the Hiperdia Program, with effective therapeutic monitoring and education on qualified health. ***Descriptors***: Quality of Life; Diabetes Mellitus; Elderly.

RESUMO

Objetivo: avaliar a Qualidade de Vida (QV) de idosos com Diabetes Mellitus (DM), segundo o WHOQOL-Old. ***Método***: estudo observacional, com abordagem quantitativa, realizado nas Unidades de Saúde da Família de Cuité/PB, com 51 idosos. Os dados foram coletados com a utilização dos questionários WHOQOL-Old e Sociodemográfico. O projeto de pesquisa teve a aprovação pelo Comitê de Ética em Pesquisa, CAAE 21901713.6.0000.5182. ***Resultados***: as médias das facetas evidenciam o melhor desempenho para "atividades passadas, presentes e futuras" (66,18%) e o pior escore para a faceta "funcionamento sensório" (37,50%). O Escore Transformado da Faceta (ETF) revela uma QV de padrão intermediário para idosos com DM (51,51%). ***Conclusões***: as Equipes de Saúde da Família devem responsabilizar-se por promover uma melhor QV para idosos diabéticos, fortalecendo e otimizando o Programa Hiperdia, com acompanhamento terapêutico efetivo e educação em saúde qualificada. ***Descritores***: Qualidade de Vida; Diabetes Mellitus; Idoso.

RESUMEN

Objetivo: evaluar la Calidad de Vida (CV) de ancianos con Diabetes Mellitus (DM), según el WHOQOL-Old. ***Método***: estudio observacional con enfoque cuantitativo realizado en las Unidades de Salud de la Familia de Cuité/PB, con 51 ancianos. Los datos fueron recogidos con la utilización de los cuestionarios WHOQOL-Old y Sociodemográfico. El proyecto de investigación fue aprobado por el Comité de Ética en Investigación, CAAE 21901713.6.0000.5182. ***Resultados***: las medias de las facetas mostraron el mejor desempeño para "actividades pasadas, presentes y futuras" (66,18%) y la peor puntuación para la faceta "funcionamiento sensorio" (37,50%). La Puntuación Transformado de la Faceta (ETF) revela una QV de padrón intermediario para ancianos con DM (51,51%). ***Conclusiones***: los Equipos de Salud de la Familia deben responsabilizarse por promover una mejor QV para ancianos diabéticos, fortaleciendo y optimizando el Programa Hiperdia, con acompañamiento terapéutico efectivo y educación en salud cualificada. ***Palabras clave***: Calidad de Vida; Diabetes Mellitus; Anciano.

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INTRODUÇÃO

The growth of the elderly population is a present event and consolidated on the world scenario, causing many discussions about aging and its process.[1] In Brazil, there is a clear and sharp demographic transition from the reduction in the birth rate and increasing the expectation of life.[2] Some projections suggest that by 2025, the number of elderly in the country will reach 34 million, reaching the sixth position among the countries with the highest absolute number of people aged less than 60 years old.[3]

The aging process is a phenomenon that must be understood in its entirety and in its multiple dimensions, since the advance of chronological age causes not only the increased vulnerability to disease processes, especially chronic non-communicable diseases, but changes of biopsychosocial order that influence the individual´s relationships with their social context and consequently their quality of life (QOL).[4]

Among chronic non-communicable diseases, diabetes mellitus (DM) appears as an important cause of morbidity and mortality, especially with elderly people.[3] DM is a public health problem because of its high prevalence and expansion, perceived in many countries, especially those in development as Brazil.[5] Projections indicate that between 2000 and 2030, the number of people with diabetes will increase from 4.5 to 11 million people in the country, with a higher incidence among the age group of 60-69 years old.[6]

By DM's ability to lead diverse and complex changes in health and throughout the daily lives of patients, it becomes a dreaded disease, which can significantly influence their QOL, especially when considering the need for change in lifestyle, complications of the disease and the side effects caused by medication treatment.[3]

QOL concept involves objective and subjective parameters. The objective parameters refer to the satisfaction of basic needs created by the degree of economic and social development of society, and the subjective parameters are the welfare, happiness, love, pleasure and personal fulfillment.[7] To the World Health Organization (WHO), QOL expression is defined as the self-perception of the individual of their living conditions in all contexts, proposing a subjective and multidimensional concept, since it includes the essential components of the human condition, whether physical, psychological, social, cultural or spiritual.[3]

In this reasoning line, considering that aging and quality of life issues are widely discussed in research and scientific discussions, it is of great importance to associate DM in this context, given the importance of identifying which dimensions of quality of life are or are affected by the disease, allowing further reflection on the development of strategies and actions that enable healthy and quality aging, even in the presence of a chronic condition.

In this scenario, this study was developed in order to achieve the following objectives:

- To assess the quality of life of older people with DM.
- To identify the dimensions affected the QOL of elderly patients with DM, according to WHOQOL-Old.

MÉTODO

Article elaborated from the monograph **<<Quality of life of elderly patients with diabetes mellitus >>** submitted to the Baccalaureate Nursing Course Coordination of the Federal University of Campina Grande, Cuité (PB), 2014.

It is a field research with observational design and quantitative approach, developed in the Family Health Units (USF) of the municipality of Cuité - PB. From the sample calculation, considering a minimum percentage of 95% of patients with DM having some dimension of compromised quality of life, a sample error of 5% and 95% of confidence level, a simple random sample consisted of 51 participants.

For the eligibility of participants, the following inclusion criteria were observed: be less than 60 years old of both genders; have diagnostic confirmation of DM; be registered and regularly monitored by the Family Health Team; have physical, mental and intellectual conditions to communicate with researchers; and accept freely participate in the study by signing the Informed Consent Form (TCLE).

Data were collected in March 2014, after research approval by the Ethics Committee of the Federal University of Campina Grande (CEP/UFCG) on March 13, 2014, under opinion Number 555,231 and CAAE Number 21901713.6.0000.5182, as regulated by Resolution 466/20128, using the questionnaire of the World Health Organization Quality of Life Assessment for Older Adults (WHOQOL-Old) and another involving sociodemographic questions.

The WHOQOL-Old consists of a specific tool to assess QOL of the elderly, developed by WHO, which contributes with additional

information about QOL in this specific population. It consists of 24 questions, divided into six facets (Operation of the senses; Autonomy; Past, present and future activities; Social participation; Death and dying; Intimacy), containing four items each one, where the score values can range from 4 to 20.[9]

Upon completion of the data collection procedure, an Excel 2010 spreadsheet software was used to build a database of information from the answers given for the items contained in the questionnaires. By grouping the information, there was a descriptive analysis, using simple measures of absolute frequency (f), relative frequency (%), average, minimum, maximum and standard deviation for the data of sociodemographic questionnaires.

Data analysis of the WHOQOL-Old questionnaire was carried out considering the separation facets. The total number of responses for each question was multiplied by the score of Likert scale, ranging from 1 to 5, where the higher the score, the better the quality of life. Unlike the score of the set of WHOQOL- Old questions, in the number 1, 2, 6, 7, 8, 9, 10, the score value is reversed, where 1 corresponds to a better quality of life, assigning the value 5, and so on (2 = 4, 3 = 3, 4 = 2, and 5 = 1). From the values, the Standardized Score (EP) was calculated, the Gross Score of Facet (EBF), the Transformed Scores of Facets (ETF) and the Total Transformed Score (ETT) as the standardization of the WHOQOL-Old.[9]

RESULTADOS

Regarding the socioeconomic profile and simplified demographic, Table 1 shows the descriptive results (measurements of absolute frequency, relative frequency, mean, standard deviation, minimum and maximum) achieved on the following variables: gender, age, education, marital status and family income.

Table 1. Socioeconomic profile and simplified demographic of elderly with diabetes mellitus monitored in the Family Health Strategy, Cuité/PB (n=51).

Variables	Categories	Elderly researched	
		N	*%*
Gender	Male	13	25,5%
	Female	38	74,5%
Age	60 to 69	34	66,7%
	70 to 79	8	15,7%
	80 to 89	6	11,8%
	Up to 90	3	5,9%
Descriptive measures	*Average = 71*		
	Standard deviation = 8,656	*Minimum = 65*	*Máxima = 93*
Education	Illiterate	19	37,3%
Descriptive measures	*Average = 2,08*		
	Standard deviation = 2,115	*Minimum = 0*	*Máxima = 7*
Marital status	Single	12	23,5%
	Married	26	51,0%
	Divorced	2	3,9%
	Widow	11	21,6%
Family income	Up to 01 minimum wage	45	88,2%
	02 to 03 minimum wages	6	11,8%
	Total	51	100%

To characterize the sample in gender, it was observed that out of the 51 (100%) survey participants, 38 (74.5%) were female and 13 (25.5%) were male. The age ranged from 65 to 93 years old, highlighting the age group of 60-69 years old with 66.7% of the sample. Regarding education, the proportion of elderly illiterate was 37.3%, which is a strong determinant of quality of life, since it influences in health education, income, employment and social network. The average number of years studied by the participants of this study was only 2.08 years.

In marital status, it was noticed a predominance of married elderly (51%). However, it is valid to point out that the sum the ones without a partner (single, divorced and widowed) was 49% of the sample, similar to the result of those with a partner. The income of the participants was also investigated and the total surveyed significantly, the vast majority live with an income of up to 01 minimum wages (88.2%) and only 11.8% with income of 2-3 wages. The low educational and economic level, prevalent in participants of this research, it is common to most users of the Unified Health System (SUS), which can be considered a selection bias of the sample.[10]

Considering the answers of the participants and the facets present in the WHOQOL-Old questionnaire: Sensory functioning; Autonomy; Past, present and future activities; Social participation; Death and dying; and Intimacy, Table 2 shows the average and standard

deviations found for each question in the WHOQOL-OLD, grouped by facets.

Table 2. Distribution of facets and averages according to application of the WHOQOL-OLD* questionnaire with elderly people with Diabetes Mellitus (n=51).

Facet/Question	Average ± SD
Sensory functioning (FS)	
Old_01 - Impact of loss of senses in daily life	3.29 ± 1.27
Old_02 – Interference of loss of senses in activities participation	3.82 ± 1.24
Old_10 – Interference of senses functioning in the interaction skill	4.08± 1.21
Old_20 – Senses evaluation	3.20 ± 1.17
Autonomy (AUT)	
Old_03 - Freedom to make decisions	3.82 ± 1.34
Old_04 - Feeling that controls their future	3.02 ± 0.73
Old_05 - People around respect their freedom	3.90 ± 1.15
Old_11 - Can do things they would like	3.08 ± 0.93
Past, present and future activities (PPF)	
Old_12 - Satisfaction with opportunities for achievement in life	3.33 ± 0.84
Old_13 - Received the recognition they deserve in life	3.29 ± 1.25
Old_15 - Satisfaction with what they achieved in life	4.24± 0.71
Old_19 - How happy about things to expect forward here	3.73 ± 0.60
Social participation (PSO)	
Old_14 - Having enough to do each day	3.22 ± 0.92
Old_16 - Satisfaction with the way in which they use their time	3.67 ± 0.84
Old_17 - Satisfaction with the level of activities	3.31 ± 0.97
Old_18 - Satisfaction with opportunities to participate in activities in the community	3.10 ± 1.08
Death and dying (MEM)	
Old_06 - Concern with the way they will die	3.57 ± 1.59
Old_07 - Fear of not being able to control death	357 ± 1.64
Old_08 - Fear of dying	3.49 ± 1.72
Old_09 – Fear of suffering pain before dying	2.25± 1.47
Intimacy (INT)	
Old_21 - Feeling of companionship in life	2.47± 1.45
Old_22 - Feeling of love in their lives	3.08 ± 1.41
Old_23 - Opportunity to love	2.59 ± 1.59
Old_24 - Opportunity to be loved	2.49 ± 1.51

* WHOQOL-OLD (*World Health Organization Quality of Life - Old*): measuring instrument of Quality of the life of elderly of the World Health Organization. SD = standard deviation

The averages shown in Table 2 (variant result between 1 and 5) are the Standardized Score (EP), calculated by dividing the sum of the responses pointed out by elderly participants of the study for each question of the WHOQOL-Old and divided by the number of respondents (n=51). It is noteworthy that initially the score for the score provisions of WHOQOL-Old questionnaire was attributed as the established standardization.[9] Generally, higher scores represent a satisfactory quality of life and lower scores means unsatisfactory quality of life.

It can be seen as the evaluation of the questions separately from every facet of the WHOQOL-Old questionnaire that the best performances of the participants were elderly with satisfaction that achieved in life (m=4.24) and with the fear of suffering pain before they died (m=2.25 - reverse score). The worst performers are related to the feeling of companionship in life (m=2.47) and interference of senses functioning in the interaction skill (m = 4.08 - reverse score).

Table 3 presents the averages and standard deviations found for each of the facets of WHOQOL- OLD questionnaire, allowing the understanding of performance relating the elderly to each facet.

Table 3. Description of averages of each facet of the WHOQOL-OLD questionnaire in elderly with Diabetes Mellitus (n=51).

Facets	Average ± SD
Sensory functioning (FS)	10,00 ± 2,68
Autonomy (AUT)	13,82 ± 2,85
Past, present and future activities (PPF)	14,59 ± 2,59
Social participation (PSO)	13,29 ± 2,49
Death and dying (MEM)	11,12 ± 5,73
Intimacy (INT)	10,63 ± 5,33
Total	12,24 ± 1,76

According to the results shown in Table 3, which presents the average values for each of the facets that involve the assessment of quality of life according to WHOQOL-Old questionnaire, one having the best performance was "past, present and future activities" (m=14.59), referring to the satisfaction of the elderly with achievements in life and goals to be achieved. However, the worst aspect of performance was "sensory functioning" (m=10.00), showing the impact of the loss of sensory abilities in quality of life of the elderly. It is important to highlight the calculation result of the average facets is variant between 4 and 20, which according to the standardization of the WHOQOL-Old is called Gross Score of Facet (EBF).

For a better understanding of the results obtained, Figure 1 shows the scores of the Transformed Score of Facets (ETF) in which EBF is converted to a percentage scale from 0 to 100%. Moreover, this same graph the Total Transformed Score (ETT) is shown, which expresses the average percentage of quality of life for elderly considering all facets of the questionnaire.

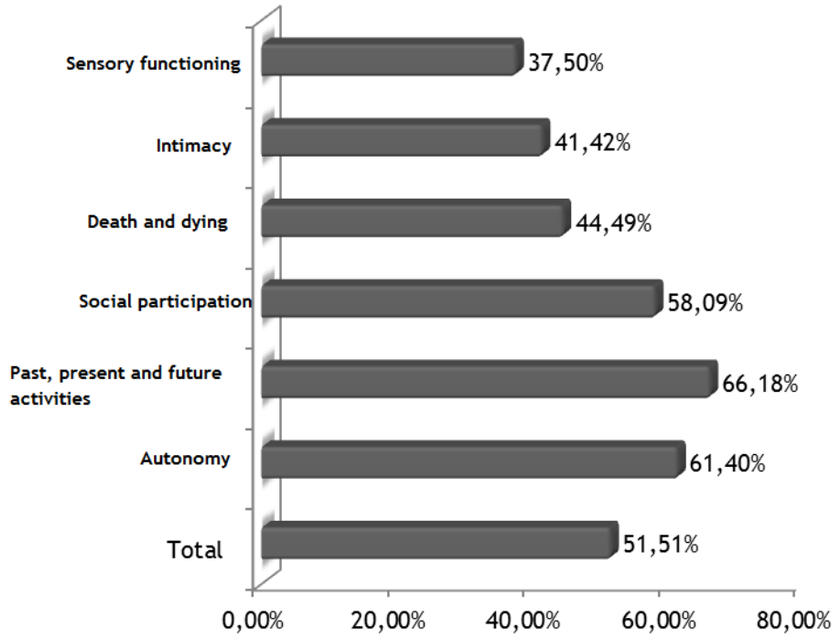

Figure 1. Description of ETF and ETT of the WHOQOL-OLD questionnaire in elderly with Diabetes Mellitus (n=51).

From the results of the averages of each facet, ETF ratify that the facet with the best performance was "past, present and future activities" (ETF=66.18%), and the worst performance was "sensory functioning" (ETF=37.50%). The results shown in this graph refers to ETT, showing that a range of 0 to 100%, the quality of life is 51.51%. Considering that high scores represent a high quality of life and lower scores a low quality of life, it is clear that older people with diabetes present with an intermediate quality of life.

DISCUSSION

The population studied was characterized by low educational and economic level, despite the emergence of DM does not depend on these social parameters. The low education present among the elderly requires special attention because of the influence it can have on some aspects such as understanding the DM and the preventive and therapeutic self-care.[11] The education rate in this study is lower than the one found in the Census 2000 in Brazilian houses, with 3.4 years,[12] as also lower than the average of studies of the northeastern population with 6 years, which is observed a 17% illiteracy rate.[13] The low income found in the participants in this study corroborates several studies that show a high incidence of diabetic patients with incomes of less than 01 (one) minimum wage. These indicators directly reflect social inequalities and thus disrespect for social rights.[14]

In this context, social inequalities have an impact on both differences in patterns of diseases like the pattern of utilization of health services, disadvantaging those at greatest social risk.[15] Thus, it points out that the low-income population directly affects the QOL, considering unquestionably be the ability to have satisfactory QOL without adequately meet basic human needs.

In the sample studied, 51% of the elderly were married and 49% had no partners (single, divorced and widowed). With regard to the role of the family in DM care, one of the factors that promote adherence to treatment are the incentives and family support.[13] In this context, it is believed that individuals who live with a partner have better results in the treatment of diabetes, since the spouse promotes a specific motivation for treatment adherence and disease control.[16]

By analyzing the contribution of facets on the QOL of the elderly, it was observed that the best performances were by participants regarding satisfaction with achievements in life and the fear of suffering pain before they die (Table 2).

The satisfaction of the participants with the achievements in life demonstrated a good level of QOL, may be related to the low age of the elderly in this study with an average age of 71 years old, as well as the low level of dependency and a good relationship with DM, which is a positive aspect, showing that this population continued to seek more recognition and durable with the passage of time. High values of the total score for this aspect were found in a study with two groups of elderly, a group of young elderly and others with older elderly, they seem satisfied with their achievements, goals achieved and projects during the life, which has important influence on QOL of the elderly, regardless of age.[17]

The good performance of the participants in the fear of suffering pain before they die, which showed good level of QOL, it may be related to the perception of many elderly as the certainty of finitude and the inevitability of death, which conform and avoid thinking this issue so peculiar. The human beings create several ways to protect themselves from their fears, especially of death. One of the means is the adoption of self-defense posture that ensures the simple act of thinking and acting, disguising its true meaning. Another way is religiosity, leaning and developing their spirituality, which emerges the possibility of understanding its existence and death, often establishing a reliable bias that warms their soul, think of a life after death, blessed and full.[18]

The worst performances of the participants demonstrated in Table 2 are related to the feelings of companionship in life and interference of senses functioning in the interaction skill. Poor performance in feelings of companionship, which shows an unsatisfactory quality of life may be related to the fact that 49% of respondents were single, widowed or divorced, which considerably decreases the feeling of companionship of these people and explains the percentage found.

The feeling of companionship as well as love and be loved, enable the sense of belonging that is very important at this stage of life, as elderly who are loved, respected and welcomed feel more happy and valued. Furthermore, the literature shows that for most elderly attitudes that reflect the companionship, as support and affection and affection demonstrations are most important and make them more satisfied with life than the sex act.[19]

In other item with the worst performance among the participants checked in Table 2, there is the interference of the functioning of the senses, which can affect a preliminary way the daily life, especially in the interaction skills with people, and consequently interfering satisfaction with the quality of life.

As they get aged, the body undergoes structural and functional changes in the sensory system, which will cause gradual loss, which depending on the degree of impairment, may restrict the independence of the elderly and their performance in daily activities, social participation and their QOL.[20] Besides the vulnerability to the gradual loss of sensory system imposed by the aging process itself that may result, for example, changes in hearing and vision, are added to the elderly of this study complications associated with DM, which can accentuate these changes and lead to other consequences.[21]

In measuring the facets by the WHOQOL-OLD, the highest score was for “past, present and future activities” (m=14.59), which had the best performance on the assessment of QOL. This facet is permeated by various aspects, such as age, functional capacity, income and social participation, which can influence the perception of the elderly against that domain. As well as people of other age groups, older people also have aspirations, which may have already been reached and led to feelings of self-realization, while others have not yet been conquered and collaborate with the feeling of hope. In this sense, it is emphasized that the search for achievement

goals at this stage of life has been described in the literature as a phenomenon that contributes to a better QOL and healthy aging, while the lack of expectation for the future can cause sadness and discouragement in the lives of elderly people.[22]

The DM, in its chronicity and its complications, can lead the patient to have a discredited life considering its non-existent cure, which can cause considerable dismay and affect the ability of the elderly carry out their daily activities. Thus, it is essential that older people can maintain a good perception for the domain "present, past and future activities", mainly because keeping this perspective the elderly remains most active, with future aspirations, making it easier to live with the disease, since living with diabetes must be peaceful and with a satisfactory adherence to treatment, so as to consolidate more efficiently the future prospects of diabetic elderly.

From another perspective, the lowest score was obtained for the facet "sensory functioning" (m=10.00), which showed the worst performance in the assessment of QOL. The decrease in sensory functioning plays an important role in QOL of the elderly, as the senses pervade the individual´s relationship to the world and influence the standard of conduct. When impaired, sensory functioning may affect their safety, limit their interpersonal relationships and social activities, generating negative consequences on their health and QOL because as a result of impairment of the senses it happens the decline in functional capacity and QOL.[20,23]

Besides the vulnerability to the gradual loss of sensory system imposed by the aging process that can generate, for example, changes in hearing and vision, added to the elderly of this study there are complications associated with DM, which can accentuate these changes and lead to absolute decline in sensory functioning such as diabetic retinopathy (RD).[21]

RD is a common complication among patients with longstanding familiarity with the DM. The visual impairment caused by the disease is an important morbidity factor with great social and economic impact on the lives of the elderly, given that its consequences range from partial reduction of visual acuity up to blindness. Vision loss contributes to deficiencies in the elderly mobility, activities of daily living, falls, medication errors, anxiety, depression and social isolation.[20,24]

In this logic, there are aspects of quality of life of the elderly that need to be improved, especially with regard to sensory abilities, facet with worse performance. The common sensory skills deficits in the aging process added to complications of diabetes can bring direct impact on QOL of the elderly, thus implying the need for assistance interventions in order to minimize and slow the progression of these deficits and complications through sensitive measures to each elderly, for example, to support access to hearing aids and eye care as well as treatment of diabetes in order to normalize the activity of insulin and blood glucose levels to minimize the development of complications.[25]

On the relation expressed among the complications of diabetes and QOL of the elderly, it should be included in the assistance provided to this population beyond the conventional treatment, activities for the promotion of health and prevention of complications. In this sense, it is up to health professionals to guide and dialogue with diabetic patients, building a concept that living well with diabetes is possible, based on conduct to maintain the care and self-care providing QOL for these elderly. Therefore, health education must be used by the whole multidisciplinary team of primary care given that the knowledge of living with diabetes and their forms of treatment favors the pursuit of better QOL for these patients.[26,27]

FINAL REMARKS

Based on these results, it is possible to conclude how much is unique to evaluate the QOL of elderly patients with DM, given that each elderly person reacts differently to exposure to the disease. This scenario is outlined because living with diabetes is permeated with major changes in lifestyle, which affects the physical well-being, psychological and social development of the affected, which involves the conditions of health and how they are facing the events of life in particular, the experience of a chronic disease.

Regarding the QOL of the elderly with diabetes, a research has shown that respondents have a quality standard intermediate life with a percentage of 51.51% in the group of WHOQOL-Old domains. It was also clarified that in certain areas the elderly with diabetes require more attention, such as the sensory functioning, worse performance facet (m=10.00), showing the impact of the loss of sensory abilities in quality of life. In this sense, the perception of the elderly and how to feel and experience the aging associated with DM are peculiar, since the presence of intrinsic and extrinsic factors may adversely affect the elderly QOL, such as

complications arising MD and the own chronic disease.

On the results obtained, it emerges a new contribution to health by identifying the dimensions of QOL affected by the DM, which enables the Family Health Team (ESF) together with the Municipal Management to promote effective actions for better QOL for elderly diabetics, based on their real needs. In this context, it is emphasized the importance of ESF in strengthening and optimization of the assumptions of Hiperdia program, which must carry out activities to promote health and prevention of complications of diabetes with more practical activities, more dynamic and attractive lectures, taking advantage of the existence of elderly groups formed in each UBSF.

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