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ORIGINAL ARTICLE

EVALUATION OF QUALITY OF LIVING OF ELDERLY WITH DIABETES MELLITUS

AVALIAÇÃO DA QUALIDADE DE VIDA DE IDOSAS COM DIABETES MELLITUS

EVALUACIÓN DE LA CALIDAD DE VIDA DE ANCIANAS CON DIABETES MELLITUS

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ABSTRACT

Objective: to evaluate the quality of life in elderly women with diabetes mellitus. ***Method:*** quantitative, descriptive, cross-sectional study. Data were collected using the WHOQOL - Bref instrument, according to the physical, psychological, social and environmental domains. It involved 146 elderly women. Data were analyzed in the EPIINFO 7.1.4, Microsoft Excel 2010 and SPSS programs. ***Results:*** most of the scores for quality of life obtained a mean value for unsatisfactory, mainly in the environmental domain. The facets of the most impaired domains were: drug dependence and treatment (49,32) for the physical domain; positive feelings (44,18) for the psychological domain; (32,53) for the domain of social relations and health care (34,25) for the environmental domain. ***Conclusion:*** aging accompanied by diabetes mellitus brings increasing risk to women in terms of health, functionality, protection and social integration. ***Descriptors*:** Aged; Diabetes Mellitus; Quality of Life; Health Profile; Aging; Geriatric Nursing.

RESUMO

Objetivo: avaliar a qualidade de vida em idosas com diabetes mellitus. ***Método:*** estudo quantitativo, descritivo, transversal. A coleta de dados foi com o instrumento WHOQOL - Bref, de acordo com os domínios físico, psicológico, das relações sociais e do meio ambiente. Envolveu 146 mulheres idosas. Os dados foram analisados nos programas EPIINFO 7.1.4, no Microsoft Excel 2010 e no SPSS. ***Resultados:*** a maioria dos escores para a qualidade de vida obteve um valor de médio para insatisfatório, principalmente no domínio meio ambiente. As facetas dos domínios mais prejudicadas foram: dependência de medicação e tratamento (49,32) para o domínio físico; sentimentos positivos (44,18) para o domínio psicológico; atividade sexual (32,53) para o domínio das relações sociais e cuidados de saúde (34,25) para o domínio do meio ambiente. ***Conclusão:*** o envelhecimento acompanhado do diabetes mellitus acarreta riscos crescentes à mulher em termos de saúde, funcionalidade, proteção e integração social. ***Descritores*:** Idoso; Diabetes Mellitus; Qualidade de Vida; Perfil de Saúde; Envelhecimento; Enfermagem Geriátrica.

RESUMEN

Objetivo: evaluar la calidad de vida en ancianos con diabetes mellitus. ***Método:*** estudio cuantitativo, descriptivo, transversal. La recolección de datos fue con el instrumento WHOQOL - Bref, de acuerdo con los dominios físico, psicológico, de las relaciones sociales y del medio ambiente. Envolvió a 146 mujeres mayores. Los datos se analizaron en los programas EPIINFO 7.1.4, en Microsoft Excel 2010 y en el SPSS. ***Resultados:*** la mayoría de los escores para la calidad de vida obtuvo un valor de medio para insatisfactorio, principalmente en el dominio medio ambiente. Las facetas de los dominios más perjudicados fueron: dependencia de medicación y tratamiento (49,32) para el dominio físico; sentimientos positivos (44,18) para el dominio psicológico, actividad sexual (32,53) para el dominio de las relaciones sociales y cuidados de salud (34,25) para el dominio del medio ambiente. ***Conclusión:*** el envejecimiento acompañado de la diabetes mellitus acarrea riesgos crecientes a la mujer en términos de salud, funcionalidad, protección e integración social. ***Descriptores*:** Anciano; Diabetes Mellitus; Calidad de Vida; Perfil de Salud; Envejecimiento; Enfermería Geriátric.

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INTRODUCTION

Older women experience situations of vulnerability and may suffer discrimination because they are women and because they are elderly. Regarding gender, women in almost all societies were valued exclusively for their reproductive role and for the care of children. Regarding the chronological aspect, contempt and contempt mark their passage to old age. It is a stage of life marked by a series of events associated with losses such as abandonment of adult children, widowhood, the valorization of youth by society and the physical and psychic conditions of menopause that make them even more fragile by the aging of the body and, still, the set of physical and psychological transformations brought with the advancement of age.[1]

The aging process is not necessarily related to diseases and disabilities, but chronic-degenerative diseases are often found among the elderly. Thus, the current tendency is to have an increasing number of elderly individuals who, despite living longer, present greater chronic conditions.[2]

Functional aspects of social relations, socioeconomic characteristics, life habits and health conditions are factors that are more relevant in older people with greater social vulnerability.3 Among the physical changes caused by aging, the increase in chronic diseases worldwide major causes of death, which were attributed to 35 million deaths in 2005, almost 60% of global mortality and 45.9% of global disease burden. According to the World Health Organization (WHO), if this trend is maintained, they should account for 73% of deaths and 60% of disease burden by 2020. Among this group, cardiovascular diseases such as systemic arterial hypertension and metabolic diseases such as diabetes mellitus.[4]

Diabetes mellitus (DM) is a chronic disease of high prevalence, according to the International Diabetes Federation[5]. In the world, 6% of the population have the disease, which corresponds to about 240 million people. Recent data indicate that, in Brazil, direct costs with DM vary between 2.5% and 15% of the annual health budget, in addition to the intangible costs such as pain, anxiety, loss of quality of life that people's lives.[4]

Due to the increased longevity of the population, many women experience the aging process accompanied by the development of chronic diseases, such as Diabetes Mellitus type 2, which implies adaptations in life habits involving food reeducation, physical exercise, the use of medication and the achievement of therapeutic and disease control goals.5 These changes can be difficult leading to the emergence of emotional reactions in response to this process. In addition, women with DM have poorer metabolic control, self-care, and quality of life than men, and are exposed to many stress-generating agents both because they have chronic illness and because of gender and their roles in society.[6]

In the literature, the differences between men and women in several psychological variables are known. However, these differences are rarely taken into account in the diabetes-related literature. These studies demonstrate that women have significantly higher values in factors that correlate negatively with therapeutic adherence in diabetes. Diabetic women report having a worse health situation, compared to diabetic men, regarding self-reported health, quality of life, mental well-being and perception of quality of care.[7]

One of the worrying factors in the elderly is their overall health, which makes morbidity a key issue. Thus, prevention and health promotion can prevent functional declines and provide a better quality of life for the elderly. All policies aimed at the elderly must take into account functional capacity, the need for autonomy, participation, care and self-satisfaction.[2]

In this sense, it is necessary to mobilize society through health programs enabling the population greater access to health, better health education process, qualified professionals leading to a general improvement in the lives of the elderly.

OBJECTIVE

- To evaluate the quality of life in elderly women with diabetes mellitus.

METHOD

A quantitative, descriptive, cross-sectional study conducted at the Endocrinology Outpatient Clinic of the University Hospital Presidente Dutra Unit (HUUPD) of the Federal University of Maranhão. It develops a care for diabetic patients and is a reference within the State of Maranhão serving patients from several municipalities. Due to its characteristics of a public nature, it serves all, indistinctly, respects the ethical principles of the professions and integrates - through an agreement - the organic structure of the SUS, according to Article 45 of Law No. 8,080/90.

The studied population was composed of 146 elderly women with diabetes mellitus.

The size of the sample was determined based on the estimated population proportion. A confidence level of 95% (α = 0.05) was considered, and the sample error was set at five percentage points. At the sample size, 10% were added to the possibilities of losses and refusals.

The inclusion criteria were: to have a confirmed diagnosis of diabetes mellitus for at least six months, to be 60 years of age or older, to be female and to have physical and mental condition to communicate with the researcher.

The research was conducted through interviews in which forms containing quantitative data with open and closed questions regarding the socioeconomic and demographic conditions of the elderly, age, race/color, education, residence, marital status, occupation, family income, presence or not of children, type of dwelling, personal morbid antecedents and time of illness; the second questionnaire was the WHOQOL - Abbreviated, Portuguese version.

The forms were applied in a reserved room after the Nursing consultations. There was an explanation of the objectives and procedures of the research and the request for signing the Term of Free and Informed Consent. For the elderly women who were illiterate or had difficulty visualizing the questionnaire, it was read clearly to ensure their participation in the study. During the interview, the elderly women were instructed to keep in mind their values, aspirations, pleasures and concerns, taking as reference the last two weeks of life.

The WHOQOL - bref is a generic instrument that consists of 26 questions, two general issues of quality of life and the other 24 represent each of the 24 facets that make up the original instrument, and these are distributed in four domains: Physical, Psychological, Relationships Social and Environmental Affairs, as presented below. Thus, unlike WHOQOL - 100, in which each of the 24 facets is evaluated from four questions, in the WHOQOL - bref each facet is evaluated by only one question.8 The two quality of life questions are calculated together to generate a single score independent of the other domains. These questions are called "overall" or "General Quality of Life Index (IGQV)" and were studied through four domains:

- **Domain I- Physical**
  3. Pain and discomfort
  4. Drug Dependence and Treatments
  10. Energy and fatigue
  15. Mobility
  16. Sleep and rest
  17. Activities of everyday life
  18. Ability to work
- **Domain II-Psychological**

5. Positive feelings
6. Spirituality/religion/personal beliefs
7. Thinking/learning/memory/concentration
11. Body image and appearance
19. Self-esteem
26. Negative feelings

- **Domain III- Social relations**

20. Personal relationships
21. Sexual activity
22. Support/social support

- **Domain IV- Environment**

8. Physical security and protection
9. Environment in the home
12. Financial resources
13. Health and social care: availability and quality
14. Opportunities to acquire new information and skills
23. Participation in, and recreation/leisure opportunities
24. Physical environment: (pollution/noise/transit/climate)
25. Transportation

Data collection was performed from May to October 2014. Data related to socioeconomic and demographic conditions were analyzed in software EPIINFO 7.1.4 and the calculation of scores and descriptive statistics of the WHOQOL - bref through Microsoft Excel 2010, by means of a tool built and tested to eliminate the complexity and high value of the software proposed by the WHO, the Statistical Package for Social Sciences (SPSS), which was a limiting factor in its use.

The tool was tested in several versions of Microsoft Excel and the results, compared to those of the SPSS software, and the results obtained were identical to the syntax proposed by the WHO. From this perspective, it was concluded that it was possible to provide a reliable tool for the calculation of scores and descriptive statistics of the WHOQOL-bref instrument constructed from a widely diffused and less complex platform of use, Microsoft Excel.[8]

To calculate the quality of life scores, the WHOQOL group syntax was used to calculate the scores of the general quality of life and domains, not having a single total score of evaluation, but scores that should be evaluated separately due to the multidimensionality of the construct "quality of life.

Responses follow the Likert-type scale (from one to five, the higher the score, the better the quality of life). There are some exceptions to using this scale, for example, in questions three, four, and 26, where answer one equals five, answer two equals four, answer three equals three, answer four equals two and answer five equals one. In these three questions, the lower the score, the better the quality of life.

Facet indices summarize the domains to which they belong used for the calculation of domain scores. Both the General Quality of Life, as domains are measured in the positive direction. Thus, the higher scores indicate a better quality of life assessment.

The research project was approved in the Committee of Ethics in Research with opinion/CEP-HUUFMA of University Hospital Unit Presidente Dutra of nº 012/11.

RESULTS

Regarding color/race, the majority reported being of the brown color, represented by 63.01% of the elderly women. The second place was represented by the black color 26.02% and, lastly, the white color (10.97%). The color or race adopted in this study is in agreement with the IBGE of the year 2010.

Regarding the color/race, the majority of them reported being of the brown color represented by 63.01% of the elderly, the second place was represented by the black color 26.02% and lastly we had the white color (10.97%). The color or race adopted in this work is in agreement with the IBGE of the year 2010.

Regarding the level of schooling, the majority were represented by incomplete high school 47.95% and, less frequently, the same percentage of 2.74% for illiterates, those with incomplete higher education and complete higher education . In relation to the marital status, there was a predominance of married women, totaling 61.60%. Next came widows and separated, with 28.81% and 5.48%, respectively.

Regarding the occupation, the highest frequency was retired, represented by 78.08%. The most prominent monthly income was a minimum wage (54.79%). Secondly, from two to three minimum wages (30.14%) and in the last place the value of 1.37% for the elderly with monthly income of six to seven minimum wages. Regarding the type of housing, the majority of the elderly women lived in their own home (95.89%). Regarding the place of residence, the majority of the elderly women live in São Luís (73.97%), followed by other municipalities (19.18%).

Regarding the personal morbid antecedents, there was a predominance of systemic arterial hypertension, represented by 50.68%. Secondly, it was observed that, among the elderly, 30.14% had an association of two or more diseases. And in less frequency, the presence of stroke and AMI (Table 1) was obtained with the same value of 1.27%.

Table 1. Socioeconomic and demographic data of elderly women with diabetes mellitus. São Luís (MA), Brazil, 2014.

Variables	n	%
Age (in full years)		
60 - 69 years	98	67.12
70 - 79 years	26	17.81
80 - 89 years	20	13.70
90	2	1.37
Color/Race		
White	16	10.96
Black	38	26.03
Brown	92	63.01
Education Level		
Illiterate	4	2.74
Incomplete elementary school	10	6.85
Complete primary education	32	21.92
Incomplete high school	70	47.95
Complete high school	22	15.07
Incomplete higher education	4	2.74
Complete Higher Education	4	2.74
marital status		
Single	6	4.11
Married	90	61.60
Widow	42	28.81
Separated	8	5.48
Occupation		
Retired	114	78.08
Others	32	21.92
Monthly income		
1 minimum wage	80	54.79
2 to 3 minimum wages	44	30.14
4 to 5 minimum wages	20	13.70
6 to 7 minimum wages	2	1.37
Personal morbid background		
Systemic arterial hypertension	74	50.68
BIRD	2	1.37
IAM	2	1.37
Dyslipidemia	10	6.85
Two or more of the diseases described	44	30.14
Others	14	9.59
Total	146	100.0

Regarding the scores of the WHOQOL - bref domains, the Physical and Psychological domains had the highest scores, with 52.01 and 51.66, respectively. The Social Relations and Environment domains had the lowest scores, 47.83 and 38.91, respectively.

Figure 1 represents the scores of each facet of the WHOQOL - bref instrument. It is worth remembering that each question is represented by a facet and that the Self-Assessment of Quality of Life refers to two questions (one and two) of the instrument. The instrument has 24 facets to be analyzed by the verification of its scores. The red columns in the graph represent the three questions that have an inverted response scale, which means that lower scores represent a better level of satisfaction with their quality of life and vice versa. The analysis of chart 2 shows that the scores varied from 32.53 to 57.88 on a scale ranging from zero to 100. The maximum value was reached by the self-esteem facet and the minimum value by the sexual activity facet.

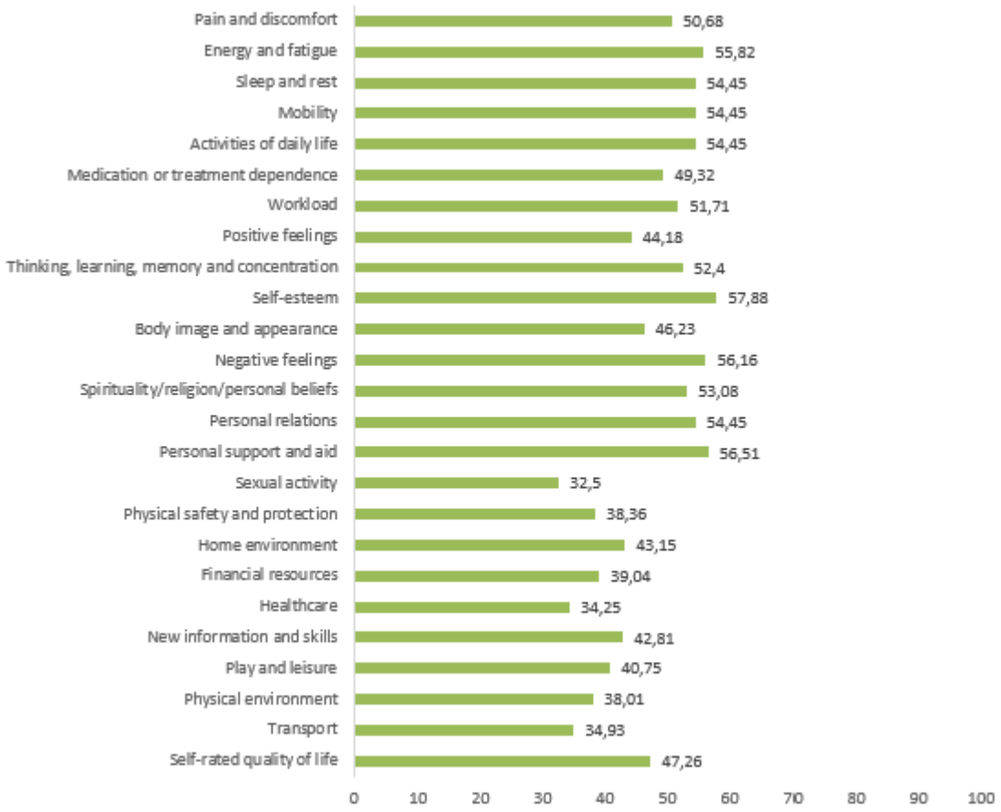

Figure 1. Factor scores of the WHOQOL-bref instrument according to the responses of elderly women with diabetes mellitus. São Luís (MA), Brazil, 2014, (N = 146).

The general quality of life (QOL) refers to the average between the first two questions of the WHOQOL - abbreviated: the first question assesses quality of life in general (Q1) and the second evaluates satisfaction with one's own health (Q2). These two issues are not part of the domains and therefore will be assessed separately (Table 2). Because the questions are related to answers ranging from one to five, their scores, likewise, are with their values represented in that range.

When asked how they would evaluate their quality of life, the majority of the elderly indicated a poor or good response (61.64%) followed by good (17.81%). When asked about their satisfaction with their health, the majority of the elderly (41.9%) showed neither satisfied nor dissatisfied, and 30.14% said they were dissatisfied with their health.

Table 2 shows that the average of the answers to questions one (Q1), which assess the quality of life in general, and questions two (Q2), about satisfaction with one's own health, were, respectively, 3, 0 and 2.78, values closer to three, which correspond to the intermediate option neither bad, nor good and neither satisfied nor dissatisfied in the questionnaire.

Thirteen elderly women evaluated their quality of life in a negative way: 5.48% as very poor and 12.33% as poor. Regarding health satisfaction, 27 women evaluated their health in a negative way: 30.14% answered that they were dissatisfied and 6.85%, very dissatisfied.

Table 2. Evaluation of the general quality of life of the WHOQOL-Bref of elderly patients with diabetes mellitus. São Luís (MA), Brazil, 2014. (N = 146).

Question	Answer options	n	%	Average score
Q1 – How would you rate your quality of life?	1- Very bad	8	5.48	3.0
	2- Bad	18	12.33	
	3- Neither bad, nor good	90	61.64	
	4- Good	26	17.81	
	5- Very good	4	2.74	
Q2 - How satisfied are you with your health?	1- Very dissatisfied	10	6.85	2.78
	2- Dissatisfied	44	30.14	
	3- Neither satisfied, nor dissatisfied	60	41.09	
	4- Satisfied	32	21.92	
	5- Very satisfied	0	0	
Total		146	100	

In relation to the domains of quality of life (Table 3), it is important to highlight that in this table, the value of the scores varies between four and 20 points due to the fact that the facets score is calculated by multiplying the mean of the questions which

constitute each facet by four, which is the number of domains. Analyzing the domains together, the physical domain had a higher mean score (12.48), followed by the psychological (11.94) and social (11.65) domains, in this order. The most affected domain was environment, with a mean score of 10.23.

For the physical domain questions, the highest mean score (3.23) was for the number ten question, which assessed energy and fatigue for the mean response. The drug dependence and treatments (Q4) obtained the lowest mean score (2.33), which is equivalent to the answer *enough*.

For the psychological domain, the facet of highest average score (3.32) was of spirituality, religion and personal beliefs (Q6), which is equivalent to the answer more or less. The facet that received the lowest mean score (2.77) was that of positive feelings, which is also equivalent to the answer more or less. It is important to note that, for negative feelings, the mean score was 3.25, which corresponds to the answer *frequently*.

For the domain of social relationships, Q20 and Q22 regarding the personal relations and support/social support facets, in this order, presented similar values in relation to their mean scores, which were 3.18 and 3.26, respectively. The lowest mean score (2.30) was for sexual activity (Q21). This value corresponds to the *dissatisfied* response (Table 3).

Table 3. Mean scores, standard deviations and coefficient of variation for the domains of quality of life of the WHOQOL - Bref, University Hospital, São Luís-MA, Brazil, 2014, (N = 146).

Question (evaluated facet)	Average score	Standard deviation	Coefficient of variation
Physical Domain			
Q3 (pain and discomfort)	3.03	1.30	42.99
Q4 (medication dependence and treatments)	2.33	1.05	35.45
Q10 (energy and fatigue)	3.23	1.01	31.16
Q15 (mobility)	3.18	1.18	37.21
Q16 (sleep and rest)	3.18	0.99	31.18
Q17 (activities of daily living)	3.07	1.12	36.57
Psychological Domain			
Q5 (positive feelings)	2.77	0.87	31.60
Q6 (spirituality/religion/personal beliefs)	3.22	1.05	31.75
Q7 (think/learn/memory/concentration)	3.10	0.92	29.57
Q11 (body image and appearance)	2.85	1.01	35.42
Domain Social Relationships			
Q20 (personal relationships)	3.18	1.03	32.47
Q21 (sexual activity)	2.30	1.02	44.46
Q22 (support/social support)	3.26	0.93	28.48
Environment Domain			
Q8 (physical security and protection)	2.53	0.78	30.90
Q9 (physical environment, pollution, noise, traffic, climate)	2.52	0.94	37.47
Q12 (financial resources)	2.56	0.90	35.03
Q13 (opportunities to acquire new information and skills)	2.71	0.98	36.08
Q14 (participation in, and recreation/leisure opportunities)	2.63	1.01	38.29
Q23 (home environment)	2.73	0.92	33.63
Q24 (health and social care)	2.37	0.87	36.88
Q25 (transport)	2.40	0.92	38.55

The mean scores, standard deviations of the facets that make up the environment domain of quality of life, are represented in table 3. Regarding this domain, question 23 (Q23) obtained a higher mean score (2.73) and question 24 (Q24), which analyzes access to health services, obtained the lowest score (2.37).

DISCUSSION

As far as age is concerned, the studied population is heterogeneous, with a minimum age of 60 years and maximum of 90 years, with a mean age of 67 years. The results of this study indicated that 67.12% of the elderly women were in the age range of 60 to 69 years old, and were considered as young women.

The Brazilian Institute of Geography and Statistics - IBGE[9] determined that the life expectancy of Brazilians is, on average, 73.8 years, but with large regional variations and between the sexes. This is corroborated by the study on quality of life and comorbidities in the elderly, [10] with a predominance of 70-80 year olds, female, married or living with a partner, and monthly income of a minimum wage. In Maranhão, the life expectancy is around 68.7 years, being the State of Brazil with lower value. Women live on average 7.2 years longer than men. This disparity between genders also varies between federative units.

In relation to the color of the skin, a majority was found in the brown color, with a total of 63.01%. In second place was the color black (26.02%) and lastly, the color white (10.97%). These figures can be explained by the IBGE[9], which stated that, compared to the 2000 Census, the percentage of pardos increased from 38.5% to 43.1% (82 million people) in 2010. The proportion of blacks also rose from 6.2% to 7.6% (15 million) in the same period. This result also indicates that the white self-declining population fell from 53.7% to 47.7% (91 million Brazilians).

Regarding educational level, the majority of the elderly women reported incomplete secondary education (47.95%), 2.74% were illiterate and only 2.74% had higher education. These data are in agreement with the study conducted in Belo Horizonte on quality of life and associated factors in the elderly[2], which showed that 21.4% had less than four years of schooling and 8.6% of the elderly did not attend school. In the female population, the concentration of prevalence in the lower levels of schooling can be explained by a historical inheritance inherited since the twentieth century, where the low-income woman suffered two types of discrimination: first, because she is a woman and, second, because poor.

This study also corroborates the study carried out in Belo Horizonte[2] regarding socioeconomic data. In this study, the majority of the elderly women were retired, represented by 78.08%, with monthly income of a minimum wage (54.79%). In the studies performed at the referral center to the elderly person from Belo Horizonte[2], there was a relation to the occupation and income, where it was verified that 80.2% were retired. The justification for retirement, found in the majority of the elderly, is the fact that, above 60 years, they already present themselves in the third age, thus conquering the right to receive the benefits of social security, retirement.

In addition to this, low income, associated with the aging process, has had repercussions on the autonomy of the elderly with DM. This has a relationship of greater dependence with the public health service, where you will need to receive care and medicines to treat. Otherwise, loss of autonomy may influence self-esteem and lead to disregard for their health, reducing self-care and favoring the appearance of chronic complications.[10]

This is related, as already mentioned, to low educational level, which has led to the non-inclusion of women in earlier times in the labor market. This has made these women, even conquering the retirement by age, do not contemplate an adequate income for their survival.

In terms of marital status, there was a predominance of married women (61.60%), an index consistent with that of a cross-sectional study on quality of life, depressive symptoms and religiousness in the elderly.[11] These data show that Nursing can stimulate support family care in the elderly, seeking co-responsibility.

In smaller numbers, the widows were separated, with a proportion of 28.81% and 5.48%, respectively. It can be stated, through the study, that the highest proportion of married women is related to the lowest age group found in the study, where elderly women aged 60-69 years (young women) were found and the increase in age is intimately linked to the increase in the proportion of widows.

As can be seen, with regard to the demographic characteristics of women with DM, the results of the research converge with findings from several other studies, indicating that this disease affects people over 50 years of age, and due to the greater longevity of women, most of them are married or widowed, retired and living in their own home.

Regarding the personal morbid antecedents, there was a predominance of systemic arterial hypertension, represented by 50.68%, followed by the association of two or more cardiovascular diseases (30.14%). Hypertension is twice as common in people with diabetes compared to the general population. Diabetes Mellitus, associated with arterial hypertension, becomes the main risk factor for cardiovascular diseases.[12]

In the study carried out at the referral center in Belo Horizonte, the most common comorbidities were: hypertension (63.4%), dyslipidemia (26.5%), diabetes mellitus (23.7%) and osteoarticular diseases 23.3%)[2].

In a study on falls and quality of life in elderly patients with cataract, [13] it was found that the elderly reported (34.21%) heart problems and 23 (60.53%), arterial hypertension and diabetes (7.89%). Therefore, according to the Brazilian Society of Diabetes[4], the benefits of a more rigorous control of blood pressure levels are shown to be greater than those obtained with the more rigid control of glycemic levels. This fact should be observed by professionals inserted in the care of diabetic elderly people in the primary health care level.

In order to consider the General Quality of Life (GQoL) perspective, an approach influenced by sociological studies is adopted, with no emphasis on dysfunctions or aggravations. Quality of life is influenced by both demographic, clinical and behavioral factors.[2] Only functional aspects of social relationships, such as dissatisfaction with personal relationships and not having, where necessary, someone's support to help get in bed, going to the doctor and preparing meals were independently associated with poorer quality of life.[3]

In the analysis of quality of life in General Quality of Life (GQoL), which is represented by questions one (Q1) and two (Q2) of the WHOQOL - bref questionnaire, it was observed that the elderly, when questioned about their (61.64%), and when asked about their satisfaction with their health, the majority of the elderly (41.9%) showed neither satisfaction nor dissatisfaction , while 30.14% said they were dissatisfied with their health. Regarding the QOL score, the average of the answers to question one (Q1), which evaluates the quality of life in general, and question 2 (Q2), about satisfaction with one's own health was, respectively, 3.0 and 2.78, values closer to three, which corresponds to the intermediate option neither bad, nor good nor neither satisfied nor dissatisfied. Thirteen elderly women evaluated their quality of life in a negative way: 5.48% as very poor and 12.33% as poor. Regarding the satisfaction with one's own health, 27 women evaluated their health in a negative way, with 30.14% responding to being dissatisfied and 6.85%, very dissatisfied. In the scale from zero to 100, GQoL showed a value of 47.26, indicating an intermediate general evaluation in relation to quality of life.

When analyzing the domain scores together, it can be observed that the physical domain had a higher mean score (12.48), followed by the psychological (11.94) and social (11.65) domains, in this order, and the domain with the lowest score was the environment, with a mean score of 10.23.

From this data, a more optimistic perception of the physical domain and a negative perception of the elderly in the environmental domain can be observed. It is important to encourage the personal accountability of society to create friendly environments for the elderly, stimulating intergenerational solidarity.[14]

In the analysis of the domains individually, it was observed that for the questions of the physical domain, the highest mean score (3.23) was for the issue of number ten, which evaluated energy and fatigue regarding the mean response. The drug dependence and treatments (Q4) obtained the lowest mean score (2.33), which is equivalent to the answer *enough*.

The maintenance of functional capacity, which means, in other words, to maintain the autonomy and independence of the aging individual, is a fundamental pillar of health care for the elderly. There is evidence that the individual's health trajectory results from a genetic, environmental, lifestyle, nutrition, and also unpredictable. [14]

For the psychological domain, the facet of highest average score (3.32) was of spirituality, religion and personal beliefs (Q6), which is equivalent to the answer more or less. The facet that received the lowest mean score (2.77) was that of positive feelings (Q5), which is also equivalent to the response more or less. It is important to note that, for negative feelings (Q26), the mean score was 3.25, which corresponds to the response frequently and that, for body image and appearance (Q11), the mean score was 2.85, which equals the answer average.

The elderly women rated their mental well-being and quality of life worse than men, and middle-aged men found themselves more satisfied with their memory and appetite than women. Women of this age group perceive their quality of care significantly worse than that of men. [7]

The lower levels of quality of life in the environment and especially in the physical domains do not seem to influence the higher results in the Psychological Domain. The results indicate that, although the process and the experience of aging of individual character, there is the possibility of experiencing negative aspects, such as inadequate environments, diseases and functional losses, without a great impact on the quality of psychological life. [11]

In a study on aging and quality of life of institutionalized elderly, 15 in the psychological domain, women had a lower mean (3.34) than men (3.94). This difference between the sexes was justified by the fact that, in the authors' research, women responded that they enjoy less life, concentrate less, have negative feelings, anxiety and depression more often than men. Thus, it is perceived that subjective quality of life is better for men than for older women, perhaps because aging is perceived by the woman as more negative. In general, the evaluation of the elderly about their own health worsens with age, but the differences between the sexes remain, that is, men

continue to score higher than women. The lowest score found in the assessment of quality of life was in the intimacy facet, showing that the elderly are little concerned with personal and intimate relationships. 15

A study on the quality of life of the frailized and institutionalized elderly14 found that several reasons lead the elderly to self-enroll in long-term care facilities for the elderly, either because they consider themselves to be a burden or feel despised by the family, or for being aware that he started to need health care. It is understood that this can lead to low levels of quality of life, since this elderly person may present difficulty adapting, remaining in the institution not by acceptance of their new reality, but by pride or health needs.

By living in a society based on productivity and on young standards of beauty and aesthetics, aging means reduced productivity and loss of a beauty hitherto considered ideal. Thus, aging for women becomes dramatic because it ceases to be doubly productive (human labor and reproduction), coupled with the emergence of the patterns of beauty and socially constructed stereotypes. [16]

Regarding the execution of home care, the children stood out as the main caregivers (66.7%) and secondary caregivers (30%), exercising this activity, in most cases (55%), less than five years ago, evidencing the growing demand for new caregivers; without receiving financial assistance (73.3%) or training (83.3%) and playing this role in a solitary way (36.7%).[17]

For the domain of social relations, Q20 and Q22, regarding the personal relations and support/social support facets, presented similar values in relation to their mean scores, which were 3.18 and 3.26, respectively. The lowest mean score (2.30) was for sexual activity (Q21). This value corresponds to the answer *unsatisfied*.

In advanced old age, women are most negatively affected in their sexual experiences and an important factor in the loss of sexual interest is the negative reaction with which society assesses the bodily changes and physical appearance of the elderly woman. Sexuality in old age is still a delicate subject to be discussed in research and academic discourse, which has reflected in the care of this part of the population.[18] Climacteric hormonal changes, added to those of aging, tend to overload this stage of life, compromising body image and self-image and bringing negative thoughts, anxiety and depression. Thus, the decrease in sexual activity in aging can be interpreted not only as a biological phenomenon, but as a physiological, psychological and social transition[19]. Studies show[18] that the inadequate approach of health professionals negatively motivates this picture. The fact that they believe that the elderly do not have an active sexual life causes that doctors and nurses do not dialogue or question about issues related to sexual life.

Regarding the environmental domain, question 23 (Q23), which evaluates the environment in the home, obtained a higher mean score (2.73) and question 24 (Q24), which analyzes access to health services, obtained the lowest score (2.37). Regarding financial resources (Q12), the mean score was 2.56.

The quality of life in old age is directly related to the existence of environmental conditions that allow the elderly to perform their activities of daily living with independence and autonomy. The physical environment in which this elderly person is inserted can influence intimately the dependence or not of this individual. An elderly person is more likely to be physically and socially active if they have the opportunity to walk safely on the sidewalks, go to the park, or even take public transportation.[20] It is also helpful to look at interventions to improve mental and emotional health, fortify social support and control chronic diseases, which are crucial factors in maintaining quality of life. Thus, it can be inferred that adequate housing and physical environment have a positive influence on the quality of life of the elderly.[14]

CONCLUSION

Most of the published studies on diabetes mellitus focus primarily on the physiological aspects of the disease, ignoring the social context in which the diabetic elderly woman is inserted. Gender differences associated with diabetes self-management skills related to quality of life have received little attention in scientific research. However, several studies recognize the need for research to be more culturally relevant, considering gender as a determinant psychosocial factor in quality of life and in the control of Diabetes Mellitus.

The elderly diabetic woman deserves special mention due to her cultural character as a caregiver and, in this case, elderly and dependent. Therefore, strategies to support these elderly women should be developed by the teams, considering these findings.

Quality of life in old age is a complex phenomenon and subject to multiple

influences. The feminization of old age is accompanied by a fall in quality of life compared to previous phases of the life cycle. Aging, accompanied by the presence of diabetes mellitus, carries increasing risks to women in terms of health, functionality, protection and social integration.

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