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EVALUATION OF SELF-CARE IN ELDER MEN WITH DIABETES MELLITUS

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ABSTRACT

Objective: To evaluate self-care in elderly men with diabetes mellitus. **Materials and Methods:** A descriptive, cross-sectional study with a quantitative approach in which 96 elderly patients attended in an outpatient clinic of endocrinology of a university hospital attended. Data were collected through the Self-Care with Diabetes questionnaire presented through charts, and discussed in light of related literature. **Results:** The prevalence of the elderly was 60 and 80 years old, retired, brown, married and with low schooling. Regarding self-care activities with diabetes, the items of drug therapy and foot care showed good adherence, while blood glucose monitoring and physical activity practice achieved lower adherence. **Conclusion:** Low adherence to self-care activities regarding blood glucose monitoring and physical activity was observed, which might lead to the onset of comorbidities and complications of the disease. Thus, it is evident the need to promote self-care in this population.

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INTRODUCTION

Aging is a progressive process in which biological, functional, psychological changes occur and over time tend to determine a gradual loss of a person's ability to adapt to the environment, consequently resulting in greater fragility, increasing incidence of diseases that lead to death (OLIVEIRA *et al.*, 2016). From the demographic and epidemiological transition, important changes begin to occur, the elderly population experiences an increase in the prevalence and incidence of chronic diseases, such as diseases of the circulatory system, arterial hypertension, and diabetes mellitus, as well as increased rates of mortality in the elderly population (CARAZZAI, 2014).

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It is estimated that the world's population with diabetes is around 382 million and may reach 471 million in 2035, which can be considered an ongoing epidemic (SBD, 2015). According to the Pesquisa Nacional de Saúde – PNS (National Health Survey) conducted in 2013, the higher the age group, the higher the percentage of people diagnosed with diabetes. In people aged 75 years or older, the percentage was 19.6% (SZWARCURLD *et al.*, 2015). In Maranhão, there are 2,396,638 people and the prevalence is 7.6% of the population between 30 and 59 years of age. Therefore, 499,295 people are estimated to have diabetes mellitus (SBD, 2017). The increase in the prevalence of diabetes is associated with several factors, such as accelerated urbanization, epidemiological and nutritional transition, sedentary lifestyle, overweight, population growth and aging, as well as greater survival of individuals with diabetes (SBD, 2017). Self-care is one of the

main components in the treatment of diabetes, which involves the pursuance of a food plan, capillary glycemia monitoring, physical activities practice, correct medication use and feet care (GOMIDES *et al.* 2013). The active participation of the patient is decisive in the prevention of acute and chronic complications due to the disease (PEREIRA *et al.*, 2016). Given this context, the objective of the present study was to evaluate the self-care activities of elderly diabetic men treated at a reference outpatient clinic.

MATERIALS AND METHODS

This is a descriptive, cross-sectional study with a quantitative approach. The research was carried out at the endocrinology outpatient clinic of a Reference Hospital in the city of São Luís, MA, Brazil. The study sample includes 96 elderly. The inclusion criteria adopted were type II diabetics, age equal to or greater than 60, and in treatment at the outpatient clinic for more than six months. Regarding the including criteria, were included elderly people with communication difficulties with the researcher and the elderly people with a dementia diagnosis. Data collection was taken as follows: approach and personal contact with patients in a waiting room and proposal to take part in the research; researcher's orientation regarding research; signing of the Free and Informed Consent Form and questionnaires answering respectively. The study was conducted using the Questionário de Autocuidado com o Diabetes – QAD (Diabetes Self-Care Questionnaire), a translated, adapted and validated version for Brazilian culture from the Summary of Diabetes Self-Care Activities (SDSCA) for patients with diabetes mellitus (MICHELS *et al.* 2010).

This instrument is a Likert scale and has seven closed and self-closing questions, with the score ranging from zero to eight points. In order to evidence a change of behavior by the patient, the minimum score of five points of average in each domain should be considered. Each question evaluates the level of self-care, being: general feeding, specific feeding, physical activity, glucose monitoring, feet care, medication and smoking.

Continuous variables were described by mean and standard deviation (desvio padrão – DP); categorical variables were described by means of absolute frequency and percentage. Values were assigned to the answers according to the frequency with which they performed a certain activity on week days of the week, with score variation of each item from zero to seven. The zero value corresponds to the least desirable situation and seven to the most desirable. In the items of the "specific feed" dimension, the values were inverted (7 = 0, 6 = 1, 5 = 2, 4 = 3, 3 = 4, 2 = 5, 1 = 6, 0 = 7). The analysis of the last item – smoking – was done through the absolute and relative frequencies of smokers in the sample, as well as the average number of cigarettes consumed per day (Michels *et al.*, 2010). Data were imported into Stata software version 14, having a significance level of 95% and a tolerable margin of error of 5% and in the program Microsoft Office Excel 2013 presented by means of charts, in absolute numbers and percentages analyzed through a descriptive statistic working with relative and absolute frequency, and discussed in the light of literature. The research is part of the project "Diabetes Mellitus: assessment of knowledge" that was submitted to the Ethics Committee, being approved with the opinion number 1,237,917 and following the Resolution number 466/2012 of the Conselho Nacional de Saúde – CNS (National Health

Council), which deals with research on human beings, respecting the principles of ethics, reliability and anonymity.

RESULTS AND DISCUSSION

A total of 96 elderly men diagnosed with type 2 diabetes mellitus participated in the study. Regarding age, there was a greater occurrence of elderly individuals between 66 and 70 years (36.5%). Regarding race, the criterion recommended by the Brazilian Institute of Geography and Statistics (IBGE) was used, with a predominance of non-white elderly people (67.8%). The degree of education taking into account the study time, showed the predominance of the elderly with less than four years of study. The data show that the most frequent marital status is married elderly (72.9%). When assess the self-care of diabetics, better adherence to activities related to drug therapy and foot care was achieved, while activities related to physical activity and glycemic monitoring received less adherence. As described in Chart 1. Similar data were found in India, a developing country such as Brazil, where results showed that 79.8% reported activities related to drug therapy, while 21% reported practicing the recommended level of physical activity (Gopichandran *et al.*, 2012). In Brazil, these results were also found in other studies that applied the QAD in populations with an average of 60 years in the Outpatient Clinic of the University Hospital of the Federal University of Santa Catarina (MICHELS *et al.*, 2010) and in the city of Ribeirão Preto, São Paulo, Brazil (GOMIDES *et al.*, 2013).

Self-care related to the general feeding scope was close to desirable, demonstrating that the elderly have the habit of feeding properly. Among the five items approached about food: following nutrition guidelines was the one that presented the lowest adherence with a mean of 3.31 days / week, with regarding to the elderly who reported that although they receive guidelines on a healthy diet, it is financially incompatible with their income, thus they have made adaptations in order to follow a healthy diet. Gomides *et al.* (2013) found in his research with an average of 5.6 day / week for the item of healthy diet and 4.3 days / week for the item to follow the food orientation. The item ingesting sweets had a higher adhesion with a mean of 0.57 day / week. This positive aspect was also found in the study by Felix *et al.* (2015), who presented an average consumption of 1.22 day / week and 60% reporting not ingesting sugar or sweets, since according to their knowledge acquired from the guidance of the health team, this category of food is not recommended for diabetes mellitus, as it is also said among the society that sweets are harmful and prohibited foods for diabetic people. In the treatment of diabetes, healthy eating is essential because it favors glycemic control, weight control, in spite of food insecurity is an aggravating factor and increases cardiovascular risks, as well as the appearance of acute and chronic complications of the disease (VASCONCELOS *et al.* 2015). As for the physical activity domain, an average of 2.25 day / week was observed for the item to perform physical activity for at least 30 minutes. In relation to the practice of specific physical activity (walking, swimming, among others), the average found was 1.21 day / week. Similar data were found by Gomides *et al.* (2013) that obtained the average of 1.24 day / week for this last item. Some elderly people reported that they performed physical activity, but that due to the rainy period of the research they had suspended the activity. The averages of the physical activity domain indicate an unsatisfactory result for the understanding and adoption of

Chart 1. Average items of the Questionário de Autocuidado com o Diabetes – QAD (Diabetes Self-Care Questionnaire). São Luís, MA, Brazil, 2017

Scope	QAD items	Mean (\pm DP)
General Nutrition	Follow a healthy diet	4.23 (\pm 2.55)
	Follow nutrition guidelines	3.31 (\pm 2.93)
Specific Nutrition	Eat five or more servings of fruits and vegetables	4.97 (\pm 2.34)
	Ingest red meat and / or whole milk products	3.05 (\pm 2.59)
	Ingesting sweets	0.57 (\pm 1.72)
Physical Activity	Practice physical activities for at least 30 minutes	2.25 (\pm 2.57)
	Practice specific physical activities (walking, swimming, etc.)	1.21 (\pm 2.10)
Glycemia Monitoring	Evaluate blood sugar	1.28 (\pm 2.32)
	Evaluate blood sugar as recommended	1.17 (\pm 2.38)
Feet Care	Examine feet	5.53 (\pm 2.54)
	Examine inside the shoes before putting them on	4.29 (\pm 3.07)
	Dry the spaces between the toes after washing them	4.15 (\pm 3.22)
Medication	Took medications as recommended	6.41 (\pm 1.41)
	Took insulin as recommended	6.77 (\pm 0.64)
	Took the indicated number of diabetes pills	6.65 (\pm 0.97)

self-care practices. Regarding the physical activity scope, an average of 2.25 day / week was observed for the item to perform physical activity for at least 30 minutes. Concerning the practice of specific physical activity (walking, swimming, among others), the mean found was 1.21 day / week. Similar data were found by Gomides *et al.* (2013) who obtained the mean of 1.24 day / week for this last item. Some elderly people reported that they performed physical activity, but that due to the rainy period in which the research was made they had suspended the activity. The averages of the physical activity scope indicate an unsatisfactory result for the understanding and adoption of self-care practices. In a study conducted by Nagai, Chubaci and Neri (2012), the elderly reported that they did not practice physical activities, attributing that to physical limitations, such as joint pain, dyspnea and hypoglycemic symptoms, although they recognize the benefits of physical activity for health. In the glycemic control scope the mean was selected for the item evaluate blood sugar was 1.28 day / week and evaluate the consumption of consumption was 1.17 day / week. Felix *et al.* (2015) found 0.79 day / week concerning to the item, similar results when compared to the study. As justification for low monitoring, some elderly informed that they were not rare not oriented to the daily measure blood glycemia, others, however, were, but did not do the monitoring due to the lack of knowledge on the disease and also for not being able to afford buying capillary glycemia tapes. It is important to emphasize that although the glyimeters are increasingly accessible and easy to read and handle, adherence to treatment in the elderly population and with a low level of schooling can be complex. Thus, the low glycemia monitoring does not necessarily indicates low adherence, since the elderly do not receive sufficient guidance from the team about the existing programs for the acquisition of capillary glycemia tapes and glucometers, becoming a limiting factor.

Glycemia monitoring is an important intervention in the control and treatment of DM. Glucemias are used to guide the dose adjustment of the medication used, since they point to the moments during the day when there is a lack or excess of its action (BRAZIL, 2013). Regarding the feet care scope, means were found close to the desirable one, in the evaluation of the three items of the QAD. The item examining feet with an average of 5.53 days / week presented the best result on self-care. These results corroborate with the findings of Gomides *et al.* (2013) that found satisfactory levels in all items in this scope. The prevention of diabetic foot, by means of the frequent examination of the feet of people with DM, is of vital importance for the reduction of the complications.

There is evidence of the importance of screening in all people with diabetes to identify those at greatest risk for foot ulceration, which may benefit from prophylactic interventions, including self-care stimulation (BRAZIL, 2013). An important nursing action is teaching patients about feet care, which begins with a meticulous daily physical examination. This self-examination of the feet should include washing, drying, and lubrication of the feet and avoiding the accumulation of moisture in the interdigital spaces (SMELTZER; BARE, 2012). Ribeiro *et al.* (2017) evidenced in his research the need for an evaluation of the people's feet with DM periodically as part of the nursing consultation and by other health professionals, which we consider a fundamental measure in the identification of risk factors that can be modified and that will consequently reduce the risk of lower limb ulceration and amputation in people with diabetes. Regarding drug therapy, all items obtained a satisfactory result on self-care. The item took medication as recommended averaged 6.41 days / week; took insulin as recommended with a mean of 6.77 days / week and took the indicated number of diabetes pills with an average of 6.65 day / week. A study by Sardinha *et al.* (2015) pointed out that 60.6% were considered adherents to the drug therapy, indicating as factors facilitating adherence family support with a supporting role in the care process, the need to comply therapeutics, as well as fear of health problems and the will to live. In this way, the nurse uses different methods according to the necessary requirements arising from the deficit of self-care, being able to act or do for the patient, orientate, guide, provide psychological or physical support, provide and maintain a personal environment, or teach him/her to deal with the inherent limitations of the disease. The nurse also has the opportunity and resources to develop actions with the elderly that allow a practical and collaborative approach, with the planning and follow-up of proactive care and supported by a growing design of self-care. The nurse has the opportunity and the resources to develop relationships with the elderly with diabetes over an extended period of time, which allows them to approach and practice collaboratively with the patient for the planning and follow-up of proactive and sustained care, in a growing logic of self-care. According to data from the sample studied, there was a low percentage of smokers, 93.8%, who reported having stopped tobacco use more than two years ago, corresponding to 71.9% of the sample (Chart 2 2). Duarte *et al.* (2013) found a similar result with diabetic men, with 87.2 declaring themselves non-smokers. The results related to smoking were positive, since there is already evidence that tobacco use is associated with the occurrence of amputations, a serious outcome related to DM (MICHELS *et al.*, 2010).

Conclusion

In the present study, there was a low adherence to self-care activities regarding blood glycemia monitoring and physical activity, which may lead to the onset of comorbidities and complications of the disease, and it is important to intensify self-care actions in when it comes to these activities, and it is up to health professionals to set goals for the achievement of a satisfactory self-care. It should be emphasized that the permanent practice of self-care in diabetes in order to reduce complications considered preventable improves health care and quality of life, especially in the course of the aging process. The research was limited due to the difficulty of finding literature regarding the self-care of men with diabetes mellitus, as well as the lack of studies that use the self-care questionnaire. In this way, the research may contribute to increase knowledge in the perspective of elderly diabetic men care, in addition, it emphasizes the importance of expanding the results found in other realities, since the behavioral changes occur slowly and vary according to the different contexts in which elderly are inserted.

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