SELF CARE ON DIABETES OF USERS IN A PRIMARY HEALTH CARE SYSTEM

AUTOCUIDADO EM DIABETES POR USUÁRIOS DE UM SERVIÇO DE ATENÇÃO PRIMÁRIA

AUTOCUIDADO DE LA DIABETES POR USUARIOS DE UNSERVICIO DE ATENCIÓN PRIMARIA

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ABSTRACT
The aim was to identify the engagement of people with diabetes mellitus in self-care activities. A cross-sectional descriptive study was carried out with 42 people with diabetes who attended the health education and promotion project for diabetic and hypertensive patients at a family clinic in Rio de Janeiro. The data revealed a good level of self-care in patients, especially in medication management and foot care activities. However, the domain that corresponded to physical activity and the item to measure blood glucose received less adherence. Such results serve as subsidies for the organization, planning and execution of interprofessional actions aimed at the promotion and health education of diabetics.

Keywords: Self-care; Diabetes mellitus; Self-management.

RESUMO
O objetivo do estudo foi identificar o engajamento de pessoas com diabetes mellitus em atividades de autocuidado. Foi realizado um estudo descritivo transversal, com 42 pessoas com diabetes que frequentavam o projeto de educação e promoção em saúde aos diabéticos e hipertensos em uma clínica da família no Rio de Janeiro. Os dados revelaram um bom nível de autocuidado nos pacientes, especialmente nas atividades de gerenciamento medicamentoso e cuidado com os pés. No entanto, o domínio que corresponde à atividade física e o item para avaliar o açúcar no sangue receberam menores adesões. Tais resultados servem de subsídios para a organização, planejamento e execução de ações interprofissionais voltadas à promoção e educação em saúde dos diabéticos.

Palavras-Chave: Autocuidado; Diabetes mellitus; Autogestão.

RESUMEN
El objetivo del estudio fue identificar la participación de las personas con diabetes mellitus en las actividades de autocuidado. Se realizó un estudio descriptivo transversal con 42 personas con diabetes que asistieron al proyecto de educación y promoción de la salud para diabéticos e hipertensos en una clínica familiar en Río de Janeiro. Los datos revelaron un buen nivel de autocuidado en los pacientes, especialmente en el manejo de medicamentos y actividades de cuidado de los pies. Sin embargo, el dominio que corresponde a actividad física y el ítem para evaluar el azúcar en sangre recibieron menos adherencia. Dichos resultados sirven como subsidios para la organización, planificación y ejecución de acciones interprofesionales dirigidas a la promoción y educación para la salud de los diabéticos.

Palabras Clave: Autocuidado; Diabetes mellitus; Automanejo.

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INTRODUCTION

Diabetes mellitus (DM) is a relevant public health problem and currently affects, in Brazil, an approximate number of 16 million people between 20 and 79 years old, with prospective studies to increase this health condition. Additionally, diabetes has a relevant economic impact on countries and on health systems, resulting from greater use of these services, loss of productivity and long-term care required to treat this chronic disease and its possible comorbidities.

Among the most prevalent complications are cardiovascular diseases, neuropathy, nephropathy and retinopathy, with potential to reduce functionality, quality of life and increase the mortality rate. However, patient adherence to treatment is an essential factor for controlling diabetes and preventing complications.

In treatment, several health promotion strategies must be incorporated into the daily lives of people with diabetes, in which a continuing education program focused on self-care is highlighted. Interprofessional actions should be included, including drug management, the adoption of healthy eating, regular physical activity, skin care (especially with the feet), moderation in the use of alcohol and smoking cessation, in order to promote changes for a healthier lifestyle and greater control of this health condition.

The success of the treatment depends on a professional team that actively involves the diabetic person (and their family) in the construction of the care plan, showing the individual that they are co-responsible for their treatment and that knowledge of the health condition reflects their commitment to the managing your health. In this context, this research sought to identify the engagement of people with diabetes mellitus in self-care activities.

METHODS

A descriptive cross-sectional study with a quantitative approach was carried out. Forty-two diabetic or pre-diabetic people who attended the health education and promotion project for diabetics and hypertensive patients in a family clinic in the west side of Rio de Janeiro participated in this study. Only hypertensive patients were excluded from the research.

For data collection, the sociodemographic questionnaire was applied to characterize the sample and the Diabetes Self-Care Activities Questionnaire (QAD) to identify adherence to treatment through the level of engagement in self-care activities. This questionnaire is the translated, adapted and validated version for the Brazilian context of the Summary of Diabetes Self-Care Activities Questionnaire.

The QAD is a standardized instrument composed of 18 items that assess seven dimensions: general diet, specific diet, physical activity, blood glucose monitoring, foot care, medication management and smoking habits. When responding, participants highlighted the frequency with which each item was performed in the last week, with responses ranging from zero to seven days, where the highest frequency is associated with habits that can control diabetes and modify the course of the disease. Only two questions - intake of high-fat foods and intake of sweets - need to have their results weighted, as the lower the frequency, the better self-care and treatment adherence.

During the application of the questionnaire, the researchers informed the participant that, if in the last seven days he had been feeling ill, he should think about the answers considering the most recent week without the presence of illness.

Data collection was carried out in two formats: in person at the family clinic before the new coronavirus pandemic (SARS-CoV-2) and through telephone contact with users who were away from the primary care service, due to restrictive measures for physical detachment imposed by the pandemic. For data analysis, descriptive statistics
were used, including central tendency (mean) and dispersion (standard deviation and error) indices, as well as frequency.

With regard to ethical considerations, the research was approved by the Research Ethics Committee, as well as by the Municipal Health Department of Rio de Janeiro - SMS/RJ, under the opinions of CEP-IFRJ nº 3,785.722 and CEP-SMS/RJ No. 3,908,547. Participants signed an informed consent form to raise awareness of the research objectives. To ensure anonymity and confidentiality of information, individuals were given a coding number.

RESULTS

To characterize the sample, table 1 was constructed, which shows the distribution of sociodemographic variables of the 42 research participants.

Table 1 - Sociodemographic variables of participants with Diabetes Mellitus

<table>
<thead>
<tr>
<th>Variables</th>
<th>Category</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>8</td>
<td>19,05</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>34</td>
<td>80,95</td>
</tr>
<tr>
<td>Age</td>
<td>Old man</td>
<td>22</td>
<td>52,38</td>
</tr>
<tr>
<td></td>
<td>Adult</td>
<td>20</td>
<td>47,62</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Singles</td>
<td>11</td>
<td>26,19</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>17</td>
<td>40,48</td>
</tr>
<tr>
<td></td>
<td>Widower</td>
<td>10</td>
<td>23,81</td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>4</td>
<td>9,52</td>
</tr>
<tr>
<td>Schooling</td>
<td>No education</td>
<td>5</td>
<td>11,90</td>
</tr>
<tr>
<td></td>
<td>Incomplete elementary school</td>
<td>17</td>
<td>40,48</td>
</tr>
<tr>
<td></td>
<td>Complete primary education</td>
<td>8</td>
<td>19,05</td>
</tr>
<tr>
<td></td>
<td>Complete high school</td>
<td>8</td>
<td>19,05</td>
</tr>
<tr>
<td></td>
<td>Graduation incomplete</td>
<td>2</td>
<td>4,76</td>
</tr>
<tr>
<td></td>
<td>Full graduation</td>
<td>2</td>
<td>4,76</td>
</tr>
<tr>
<td>Ocupação</td>
<td>Retired</td>
<td>20</td>
<td>47,62</td>
</tr>
</tbody>
</table>

Source – Own elaboration, 2021.

Most respondents were female (80.95%), married and retired, followed by workers or housewives. With regard to education, most participants had incomplete primary education (40.48%), followed by complete primary and secondary (19.05%). Of the comorbidities presented, the participants reported having mostly systemic arterial hypertension and rheumatic diseases. Within the sample, six people were pre-diabetic, one was type 1 diabetic and 35 were type 2 diabetic. Among them, 15 were insulin.

In evaluating the adherence of participants to self-care activities investigated by the QAD, the frequencies with their average adherence per weekday and their respective deviations and standard errors are shown in table 2.

Table 2. Diabetes Self-Care Activities Questionnaire (DAQ) in the studied sample (n=42)

<table>
<thead>
<tr>
<th>Items</th>
<th>Variables</th>
<th>Average ±</th>
<th>DP</th>
<th>EP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Followed a healthy diet</td>
<td>5,29</td>
<td>2,52</td>
<td>0,39</td>
</tr>
<tr>
<td>1.2</td>
<td>Followed the dietary guidance</td>
<td>4,29</td>
<td>3,06</td>
<td>0,47</td>
</tr>
<tr>
<td>2.1</td>
<td>Ingested five or more servings of fruit and/or vegetables</td>
<td>4,79</td>
<td>2,61</td>
<td>0,40</td>
</tr>
<tr>
<td>2.2</td>
<td>Avoided eating foods rich in fat</td>
<td>3,24</td>
<td>2,80</td>
<td>0,43</td>
</tr>
<tr>
<td>2.3</td>
<td>Avoided eating sweet foods</td>
<td>4,86</td>
<td>2,19</td>
<td>0,34</td>
</tr>
<tr>
<td>3.1</td>
<td>Practiced activity for at least 30 minutes</td>
<td>2,36</td>
<td>2,44</td>
<td>0,38</td>
</tr>
<tr>
<td>3.2</td>
<td>Practiced specific physical exercise</td>
<td>1,38</td>
<td>2,13</td>
<td>0,33</td>
</tr>
<tr>
<td>4.1</td>
<td>Assess blood sugar</td>
<td>2,69</td>
<td>3,11</td>
<td>0,48</td>
</tr>
<tr>
<td>4.2</td>
<td>Assess blood sugar the recommended number of times</td>
<td>5,33</td>
<td>2,89</td>
<td>0,75</td>
</tr>
<tr>
<td>5.1</td>
<td>Examined the feet</td>
<td>6,02</td>
<td>2,28</td>
<td>0,35</td>
</tr>
<tr>
<td>5.2</td>
<td>Examined inside the shoes before putting them on</td>
<td>4,82</td>
<td>3,12</td>
<td>0,48</td>
</tr>
<tr>
<td>5.3</td>
<td>Dried the spaces between the toes after washing them</td>
<td>5,88</td>
<td>2,54</td>
<td>0,39</td>
</tr>
<tr>
<td>6.1</td>
<td>You took the diabetes medications as instructed</td>
<td>6,90</td>
<td>0,48</td>
<td>0,07</td>
</tr>
<tr>
<td>6.2</td>
<td>Took insulin injections as directed</td>
<td>6,40</td>
<td>1,68</td>
<td>0,43</td>
</tr>
</tbody>
</table>
The self-care questionnaire showed that the greatest adherence to treatment was given by medication management according to the guidance prescribed by health professionals, whether for oral use or insulin. Next, self-care in examining and drying the spaces between the toes to avoid cracks or other complications, as well as evaluating blood sugar the recommended number of times for insulin and following a healthy diet, especially avoiding sweets, were the other activities in which the participants most adhered. In turn, the lowest adherence was in the physical activity domain, followed by the item “to assess blood sugar” in general.

When analyzing smoking habits, a significant number of people who had never smoked (n=23) or ex-smokers (n=16) stands out. Only three people reported having smoked in the last week, ranging from 1 to 10 cigarettes per day.

The standardized assessment instrument used allowed to portray the individual’s adherence to their care plan, by identifying the level of engagement of people with diabetes in self-care activities, in addition to identifying indicators that can be better managed in continuing health education programs.

DISCUSSION

Engaging in different self-care activities is necessary for the adoption of a lifestyle that is adequate for the control of diabetes mellitus. This fact reveals that the care plan must be designed in a collaborative way between professionals who seek to promote health and prevent disabilities. Furthermore, treatment success is associated with considering the diabetic person as an active subject and co-responsible for their self-care.

The research sample pointed to a greater participation of women with low education and without smoking habits. The prevalence of this chronic disease is higher in women, and the literature still informs that this gender is the one that most seeks health services, which may explain the higher quantity in this research. There was a balance in the number of diabetics in relation to age groups, with a discrete greater participation of elderly people. Data on education and age presented by the participants corroborate the epidemiological data on diabetes mellitus. Research still reports a positive correlation between the level of education and adherence to the therapeutic regimen, as well as those who have the highest level of education find it easier to adhere to the practice of physical activities.

Positively, most respondents did not have the habit of smoking, which acts as a protective factor for the health condition, since smoking is a risk factor for the development of diabetic neuropathy (with an increased chance of amputations) and cardiovascular diseases.

In analyzing the data, the survey results found greater adherence to medication management. These findings were also found in the studies by Boas et al. and Broadbent et al. In health care, incorporating drug treatment into the diabetic patient's routine seems to be the most traditional and simple self-care activity to be performed, since many lifestyle changes are not required. However, the scientific literature is quite clear in informing that the control of this chronic disease will only be effective if there is a change in behavior, integrating other healthy habits into their daily lives.

Similarly, the participants in this research also demonstrated good adherence with regard to foot care. The proper management of the diabetic foot includes keeping the region between the toes dry, the nails with close cuts and checking for the presence of mycoses and fissures. It is a health education strategy widely publicized in primary care, as it is linked to the prevention of ulcerations and possible partial or total amputations of the foot, especially in diabetics with loss of protective sensation (due to neuropathy) or peripheral arterial disease. These complications are associated with increased morbidity and mortality and high...
financial costs for health systems. Furthermore, the presence of deficiency in the structures of the lower limbs can lead to limitations in carrying out daily activities that require standing or mobility, in addition to having the potential to restrict social participation.

Survey participants who were insulin also had satisfactory adherence to the "blood sugar analysis as per the recommendations of healthcare professionals." Insulin is an effective therapeutic strategy for improving the quality of life of users who depend on this drug. Assessing capillary blood glucose, in addition to enabling immediate monitoring of metabolic control, supports decision-making in health care, in case the measured values are outside the desired standard.

With regard to self-care related to food, many participants reported avoiding eating sweets and foods rich in fat, as these products raise the glycemic index and increase the risk of developing or aggravating cardiovascular complications. The results are similar to the studies by Santos et al. and Eid et al. It is interesting to point out that, although many participants declared to follow a healthy diet, this adherence is lower when questioning whether the user follows the nutritional guidance prescribed by health professionals. Such discrepancy between results may be due to a lack of information or understanding about what would be the “ideal” nutrition for people with diabetes. Giving guidance on avoiding industrialized and processed products, foods with refined sugars or very fatty foods, without considering the context and environment of the diabetic, will hardly result in changes in the behavior of these people.

Scientific evidence indicates that there is no universal nutritional plan that works for the entire population of people with diabetes. Adopting healthier eating habits is a consequence of prior knowledge of personal and cultural preferences that involve food choices, associated with an understanding of the financial power to purchase healthier products and the family's ability to act as a facilitator for changes that will generate better glycemic control and reduce the risk for comorbidities.

Worrying, the group of research participants revealed low adherence to the practice of physical activity. The same occurred in the study by Felix et al., carried out with patients with diabetes (type 1 and 2) who had a maximum frequency of twice a week to perform physical exercise. It is necessary to return to the fact that the group of participants had a low level of education and this, in part, can justify the low adherence to the practice of physical activities, as studies point to positive associations between the two variables.

It is known that dietary patterns and regular physical activity of moderate intensity (150 minutes per week) are the habits that most contribute to the metabolic control of diabetes, to prevent cardiovascular disease and even to reduce the use of insulin and incidence of type 2 diabetes. In addition to promoting improvements in quality of life and acting to reduce weight and cholesterol, exercising regularly reduces glycated hemoglobin and fasting plasma glucose levels.

A caveat must be made for this result in the search. Some collections (n=25) were made in the context of the new coronavirus pandemic (SARS-CoV-2). As previously informed and here again, the questionnaire used (QAD) considers the frequency of adherence to self-care in its last week. Thus, the low frequency to perform physical activities may be due to the restrictive distance measures suggested by the Ministry of Health, especially considering that many of the participants were elderly, that is, they constituted a risk group for the Covid-19. In this sense, future research - post-pandemic - would be interesting to understand the real influence of the social context on the regular practice of physical activities.

Caution must also be exercised in interpreting the results on the general data of “assessing blood sugar”. All participants (insulin or not) answered this question in the questionnaire and the low adherence to this self-care practice may be due to the lack of medical recommendation to perform...
this procedure frequently and systematically for those who are not insulin, which generated an average of less than 3 days a week. Such data corroborate the study by Neto et al. As mentioned above, when only those insulin that received guidance for evaluation were analyzed, the adherence rate was satisfactory.

There is also a significant number of users (n=27) who do not have the device at home, as the blood glucose meter and blood glucose tapes are only provided by the Unified Health System to those who are insulin (which does not correspond to most of this sample, n=15). In addition to the data, the fact that many participants (insulin or not) performed this activity in the Family Clinic and, thus, this practice may have been reduced by the temporary suspension of weekly monitoring of these people for the duration of the coronavirus pandemic. However, the importance of using technologies to monitor blood glucose is undeniable, as they inform immediate results about body functions and contribute to decision-making in favor of better health care.

The limitations of this study are due to the sample size and the fact that it was restricted to the group of users who participated in a health education and promotion program for diabetes and hypertension that took place in a Family Clinic. Thus, the data cannot be generalized. In addition, the methodological strategy adopted (cross-sectional study) does not allow for cause-and-effect associations, and it is important to conduct longitudinal research to better understand the adherence of people with diabetes to self-care activities over time. However, the results presented in this study highlight the importance of a multidimensional approach to the construction of a care plan, as well as providing indications of the dimensions of self-care that still need to be worked on to obtain effective and resolute results for the control of diabetes.

**CONSIDERAÇÕES FINAIS**

Users who participated in this study showed a good level of self-care, especially with regard to medication management and foot care. However, the domain corresponding to physical activity and the item to assess blood sugar need to be better investigated, considering the social, temporal and personal context, in order to define the most appropriate strategies for the care plan for people with diabetes. The results obtained in this study serve as subsidies for the organization, planning and execution of interprofessional actions aimed at promoting and educating diabetics in health.
REFERENCES


