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Knowledge and use of the right to health by users with diabetes: mixed methods research[a]

Conhecimento e utilização de direito à saúde por usuários com diabetes: pesquisa de métodos mistos

Conocimiento y uso del derecho a la salud por usuarios con diabetes: investigación de métodos mixtos

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ABSTRACT

Objectives: to verify the factors related to the level of use of the right to health of users with type 1 and 2 diabetes mellitus and understand the knowledge and the use of rights to health of these users. **Methods:** mixed methods study, convergent type, conducted with 206 participants between November 2020 and April 2021. Data analysis was supported using SPSS® and IRAMUTEQ® software, as well as the adoption of Bardin's theoretical-methodological reference guidelines. **Results:** a relationship was found between the score of the level of use of the right to health with monthly family income and self-reported skin color; and it was verified that the more economically vulnerable a population, the more they seek for rights, besides being evident the disparity related to ethnic groups and access to the right to health. **Conclusion and implications for practice:** the combination of quantitative and qualitative data allowed a broader view of the knowledge and use of the right to health by individuals with diabetes. Thus, it is expected that the data obtained can contribute to a deeper reflection on the subject, favoring a qualified, informative and humanitarian assistance as a way to guarantee the right to health.

Keywords: Access to Information; Primary Health Care; Diabetes Mellitus; Right to Health; Nursing.

RESUMO

Objetivos: verificar os fatores relacionados ao nível de utilização de direitos à saúde de usuários com diabetes mellitus tipo 1 e 2 e compreender o conhecimento e a utilização de direito à saúde desses usuários. **Métodos:** estudo de métodos mistos, do tipo convergente, realizado com 206 participantes entre novembro de 2020 a abril de 2021. A análise dos dados teve como suporte a utilização dos *softwares* SPSS® e IRAMUTEQ® bem como a adoção das orientações do referencial teórico-metodológico de Bardin. **Resultados:** constatou-se relação entre o escore do nível de utilização de direitos à saúde com renda familiar mensal e cor da pele autorreferida; e verificou-se que, quanto mais vulnerável economicamente uma população, mais se busca pelos direitos, além de ficar evidente a disparidade relacionada aos grupos étnicos e ao acesso aos direitos em saúde. **Conclusão e implicações para a prática:** a combinação entre os dados quantitativos e qualitativos possibilitaram uma visão ampliada sobre o conhecimento e utilização dos direitos à saúde pelos indivíduos com diabetes. Logo, espera-se que os dados obtidos possam contribuir para uma reflexão mais aprofundada sobre a temática, favorecendo uma assistência qualificada, informativa e humanitária como forma de garantia dos direitos à saúde.

Palavras-chave: Acesso à Informação; Atenção Primária à Saúde; Diabetes Mellitus; Direito à Saúde; Enfermagem.

RESUMEN

Objetivo: verificar los factores relacionados con el nivel de utilización de los derechos a la salud de los usuarios con diabetes mellitus tipo 1 y 2 y comprender el conocimiento y la utilización de los derechos a la salud de estos usuarios. **Método:** estudio de métodos mixtos, de tipo convergente, realizado con 206 participantes entre noviembre de 2020 y abril de 2021. El análisis de los datos se apoyó en el uso de los softwares SPSS® e IRAMUTEQ®, así como en la adopción de los referenciales teórico-metodológicos de Bardin. **Resultados:** hubo relación entre el puntaje del nivel de uso de los derechos a la salud con el ingreso familiar mensual y el color de piel autoinformado; y se encontró que cuanto más vulnerable económicamente es una población, mayor es la búsqueda de derechos, además de ser evidente la disparidad relacionada con las etnias y el acceso a los derechos de salud. **Conclusión e implicaciones para la práctica:** La combinación de datos cuantitativos y cualitativos permitió una visión más amplia sobre el conocimiento y el uso de los derechos a la salud por parte de las personas con diabetes. Por lo tanto, se espera que los datos obtenidos puedan contribuir a una reflexión más profunda sobre el tema, promoviendo una asistencia cualificada, informativa y humanitaria como forma de garantizar los derechos a la salud.

Palabras clave: Acceso a la Información; Atención Primaria de Salud; Diabetes Mellitus; Derecho a la Salud; Enfermería.

INTRODUCTION

Diabetes Mellitus (DM) is a disease that widely affects the population at all stages of development and is configured as a heterogeneous group of metabolic disorders. Its complications cause significant morbidity and mortality, which generates high costs for health systems. Thus, public health has an essential role in promoting healthy behaviors to prevent harm to the user, stimulating self-care and effective self-management in the health-disease process.[1-2]

In Brazil, even with the existence of the Brazilian Unified Health System (SUS) with free and universal access, the individual cost for maintaining DM care is still onerous. A survey carried out in a city in the interior of Minas Gerais shows an average individual expenditure of 126 reais per month with medications and supplies per person with type 2 DM. This fact occurs due to the unavailability of free supplies due to the difficulties that SUS has in fully meeting all the needs of users, or due to the lack of knowledge of the individual with DM about their respective rights, which contributes to the impoverishment of families and increased social inequalities.[3]

In parallel, in countries that do not have a public health system, such as the United States, it was found that 6% of the national expenses of people in 2017 were attributed to chronic conditions, such as DM, influencing the health, social, and economic status of people.[4]

The guarantee of the citizen's right to health should be based on the integral access, from pharmaceutical assistance, which involves the dispensation of medicines and products of interest to health and the drug lists established by the federal, state, and municipal managers, to the offer of therapeutic procedures in home, outpatient, and hospital settings.[5]

In view of the above, it is worth mentioning that in Brazil the right to health is granted by the Federal Constitution of 1988. Law 11,347/06, published on September 27, 2006, provides for the free distribution of medicines and materials necessary for their application and for the monitoring of capillary blood glucose to diabetes carriers enrolled in education programs for diabetics.[6] Law 13,895/19, meanwhile, issued on October 30, 2019, establishes the national policy for diabetes prevention and comprehensive assistance to diabetic people, which constitutes the realization of dissemination and awareness campaigns about the importance and need to regularly measure glycemic levels and control it.[7]

However, most users living with the disease are unaware of these rights and, consequently, of the resources available from the health services. This fact often leads to non-rational attitudes, such as routine drug administration, home practices, and use of supplies inappropriately, which can generate more expenses and inappropriate conduct in the management of the disease, potentially triggering complications.[8]

Therefore, recognizing that the knowledge and use of the right to health are fundamental tools for social participation as a constitutional guideline of the SUS, which will contribute to a greater motivation in the search for the guarantee of these rights as citizens and users of a public health service, the following research questions were raised: what are the factors related to the level of use of the right to health in users with DM? What is the knowledge of DM patients about the right to health? And what are the rights used by users with DM?

Given the context presented, it is understood the need to challenge different research approaches and enable approximation of adequate response to the questions. It is proposed, therefore, the fusion of approaches in the development of research. Therefore, understanding through different research methods the nuances that permeate the use of the right to health by users with DM is a complex issue, justifying the need for the development of this research, to contribute so that this population can receive a more qualified care aimed at public policies and the scientific community in the area.

In view of the above, this study aimed to verify the factors related to the level of utilization of the right to health of users with DM type 1 and 2 and to understand the knowledge and utilization of the right to health of these users.

METHOD

This is a mixed methods study, of the convergent type, with concomitant data collection; therefore, quantitative, and qualitative data were collected simultaneously, with equal emphasis on both sets of data.[9] This study met the recommendations of the Good Reporting of a Mixed Methods Study.[10]

For the quantitative study, we followed a cross-sectional, analytical, and exploratory design, using IBM Statistical Package for the Social Sciences (SPSS®) software version 22.0 for data analysis. The qualitative research was guided by the thematic content analysis technique,[11] followed by lexicographic analysis using the software *Interface de R pour les Analyses Multidimensionnelle de Textes et de Questionnaires* (IRAMUTEQ®).

To conduct the study, the Basic Family Health Units (UBSF-in Portuguese) of the municipality of Cuité, Paraíba, Brazil were adopted as the demographic scenario. The choice of setting is justified by the high flow of users in the services, configuring itself as a reference sector for health care demands in the municipality, besides being close to the campus of the Universidade Federal de Campina Grande (Federal University of Campina Grande), in which part of the researchers responsible for the research are included.

The research population consisted of users of the Family Health Strategy in the urban area of the city where the research was carried out. The delimitation of the number of people with type 1 and type 2 DM was done by consulting the individual registration report of primary health care, obtained through the e-SUS and e-SUS PEC (Electronic Citizen's Record), showing a total of 439 users followed-up in the UBSF of the urban area of the city.

Based on the population number, the sample calculation was performed using the public domain program OpenEpi version 3.01, considering a confidence level of 95%, sampling error of

5%, and minimum expected proportion of 50%, obtaining a total of 206 participants.

The users were selected by simple random probability sampling. Thus, all medical records of people diagnosed with DM were consulted in each Basic Health Unit, in which the name and address were recorded, and these data were identified with a numerical coding. After that, the Quick Draw application was used to draw the numbers.

The eligibility criteria included individuals diagnosed with DM type 1 or type 2, aged 18 years or older; and, excluded were those with attention deficit, communication, and/or difficulty in answering the questions, as observed by the researchers at the time of data collection and nursing records contained in the users' medical records.

Next, we moved on to the data collection stage, which was conducted during the period from November 2020 to April 2021. To operationalize this phase, an instrument was used, subdivided into two parts: the first, containing socioeconomic and clinical data of the participants; and the second, containing data to measure the level of use of rights of users with DM type 1 and 2. The latter was prepared based on a review of current legislation, considering aspects present in the Charter of Right of Health Users;[12] in Law no. 11. 347/2006 published on September 27, 2006, which provides for the free distribution of medications and materials necessary for their application and for monitoring capillary blood glucose levels to people with diabetes enrolled in education programs for diabetics,[5] Ordinance No. 2,583/2007, which defines the list of medications and supplies made available by SUS under Law No. 11,347/2006; and Ordinance No. 19/2019, which incorporates long-acting insulin analogues within the scope of SUS. It is noteworthy that this strategy was used due to the lack of accurate forms for the measurement in question.[13-14]

After its construction, considering that there is no uniformity regarding the number of experts needed to evaluate the content of a technology, whose number can vary from 3 to 16, the instrument was evaluated by four experts around DM, obtaining a Content Validity Index (CVI) of 0.80.[15] Therefore, this method measured the percentage of judges who agreed on the relevance of the instrument and its items.

The final version of the data collection instrument contained fourteen questions, distributed in three pillars: access to information, therapeutic assistance, medications (oral and insulin), and supplies. The answers were distributed on a Likert scale ranging from zero to four (0-never, 1-almost never (rarely), 2- sometimes, 3-almost always, and 4-always). Therefore, the DM users' level of rights utilization score had a minimum score of zero and a maximum score of 56. A guiding question was also asked: what do you know about your rights as a person with DM and how do you use them? It is worth mentioning that the answers arising from this last variable were recorded and transcribed in full, thus ensuring greater reliability of the information obtained.

Data analysis was initially performed individually, respecting the specificities of each set of data (quantitative and qualitative), and then integrated. In the quantitative analysis, the outcome was the score of the level of utilization of rights of users with DM type 1 and 2. The exposure variables were: sex, age group, marital status, remunerative activity, years of study, family income, self-reported skin color, and religion.

With statistical support from SPSS® software version 22.0, absolute and relative frequencies were estimated for categorical variables, mean and standard deviation for numerical variables. In the bivariate analysis, the score of the level of use of rights was submitted to the Shapiro Wilk test, to verify the normality of the data. From the asymmetric distribution result, the median and the 25 and 75 quartiles were used as measures of central tendency and dispersion, respectively, and the comparisons between quantitative and categorical variables were made by means of the Mann-Whitney and Kruskal-Wallis U tests. Variables with statistical significance were considered those with a value equal to 5%.

As for the qualitative analysis, it started with the thematic content analysis, characterized by three steps: 1) pre-analysis; 2) exploration of the material; 3) treatment of results and interpretation.11 Subsequently, the IRAMUTEQ®, version 0.7 alpha 2, was used as a tool to help data exploration and lexicographic analysis. Therefore, the categories provided by thematic content analysis were compared with the classes provided by IRAMUTEQ®, in which the text segments that make up each class were read exhaustively for their understanding and naming. For this, the Descending Hierarchical Classification (CHD) method was employed, proposed by Reinert, in which texts are classified according to their vocabularies, and the set of them is divided by the frequency of the reduced forms.

The grouping regarding the occurrences of words, by means of the CHD, created the dendrogram of the classes, showing the connection between them. Words with frequency equal to or greater than the recorded average (three) and p-value with significance < 0.05 were considered relevant for associations with the class by means of chi-square (X^2).

For the integration of quantitative and qualitative data, the Correspondence Factor Analysis (AFC) was performed, which allowed, by means of graphs, to visualize the proximity of the words and classes based on the CHD considering the representations in the Cartesian plane, being another way to visualize the contents and relationships between the classes and quantitative variables analyzed.[8] The interpretation occurred by the distribution of proximity between the exposure variables with the classes.

The study was guided by Resolution 466/12 of the National Health Council, which deals with the Guidelines and Regulatory Standards for Research with Human Beings in Brazil, receiving approval by the Research Ethics Committee of the Hospital Universitário Alcides Carneiro da Universidade Federal de Campina Grande (Alcides Carneiro University Hospital of the Federal University of Campina Grande) on February 21, 2020.

RESULTS

It was verified in the surveyed sample (206 participants), a predominance of 122 (59%) users aged ≥ 60 years, female gender 128 (62.1%), married/stable union 108 (52.4%), retired 141 (68.4%), ≤ 8 years of study 168 (81.6%), income ≤ 2 minimum wages 145 (70.4%), black/black color 130 (63.1%), regarding the type of DM, it was found that 171 (83.0%) had type 2 DM and 35 had type 1 DM (17.0%).

Table 1 shows the comparison between the socioeconomic variables and the score of the level of utilization of the right to health of users with DM. There was a relationship between the score of the level of use of the right to health of users with DM with monthly family income and self-reported skin color.

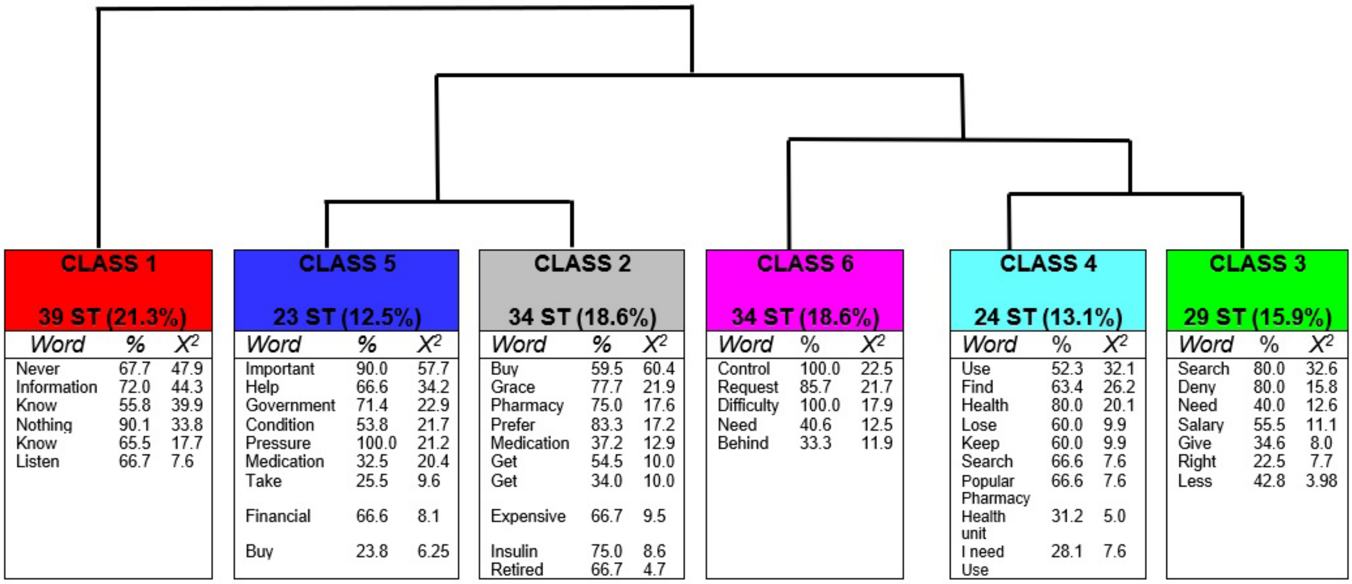
In the qualitative study, it was verified in the thematic content analysis, being ratified during the data processing, that IRAMUTEQ® recognized the separation of the corpus in 205 text units, 183 text segments were used, from a total of 221, inferring that 82.81% of the corpus was used for the analysis. The CHD, by crossing text segments and words, indicated six classes, according to the dendrogram presented in Figure 1.

It was possible to build categories to explain the knowledge and use of rights by users with DM. Class 1 pointed out the "difficulty in accessing rights due to lack of knowledge and adequate information". Class 2 showed "exemption of the user in the search for rights", being corroborated by class 5, pointing to the "recognition of rights as a complementary help from the government".

Table 1. Comparisons between socioeconomic variables with the score of the level of use of the right to health of users with diabetes mellitus. Cuité, PB, Brazil, 2020-2021. (n=206)

Variables	n (%)	Utilization of Rights Level Score	
		Median (Q_{25}-Q_{75})	p-valor
Gender			0.766*
Female	128 (62.1)	23.0 (18.2-28.0)	
Male	78 (37.9)	24.0 (18.0-29.0)	
Age Group			0.797*
< 60 years old	84 (40.8)	23.0 (16.5-30.7)	
≥ 60 years old	122 (59.2)	24.0 (19.0-28.0)	
Marital status			0.144*
Married/Stable Union	108 (52.4)	23.0 (18.0-27.0)	
Single/Divorced/Widowed	98 (47.6)	25.0 (18.7-29.2)	
Remuneration activity			0.951†
Retired	141 (68.4)	24.0 (19.0-27.5)	
Active worker	48 (23.3)	23.0 (16.0-31.0)	
Unemployed	17 (8.3)	25.0 (11.0-32.0)	
Years of education			0.146*
≤ 8 years	168 (81.6)	24.0 (19.0-28.7)	
> 8 years	38 (18.4)	21.5 (16.0-26.0)	
Monthly family income			0.025*
≤ 2 minimum wages	145 (70.4)	25.0 (19.5-29.0)	
> 2 minimum wages	61 (29.6)	22.0 (12.0-27.0)	
Self-reported skin color			0.032*
White	76 (36.9)	22.0 (12.2-27.0)	
Black/Black	130 (63.1)	24.0 (20.7-29.0)	
Religion			0.253*
Christian	190 (92.2)	23.0 (18.0-28.0)	
None/Atheist	16 (7.8)	24.5 (21.0-33.0)	

*Mann-Whitney U-test. †Kruskal-Wallis's test.
Source: Survey data, 2021.



CLASS 1 — 39 ST (21.3%)

Word	%	X^2
Never	67.7	47.9
Information	72.0	44.3
Know	55.8	39.9
Nothing	90.1	33.8
Know	65.5	17.7
Listen	66.7	7.6

CLASS 5 — 23 ST (12.5%)

Word	%	X^2
Important	90.0	57.7
Help	66.6	34.2
Government	71.4	22.9
Condition	53.8	21.7
Pressure	100.0	21.2
Medication	32.5	20.4
Take	25.5	9.6
Financial	66.6	8.1
Buy	23.8	6.25

CLASS 2 — 34 ST (18.6%)

Word	%	X^2
Buy	59.5	60.4
Grace	77.7	21.9
Pharmacy	75.0	17.6
Prefer	83.3	17.2
Medication	37.2	12.9
Get	54.5	10.0
Get	34.0	10.0
Expensive	66.7	9.5
Insulin	75.0	8.6
Retired	66.7	4.7

CLASS 6 — 34 ST (18.6%)

Word	%	X^2
Control	100.0	22.5
Request	85.7	21.7
Difficulty	100.0	17.9
Need	40.6	12.5
Behind	33.3	11.9

CLASS 4 — 24 ST (13.1%)

Word	%	X^2
Use	52.3	32.1
Find	63.4	26.2
Health	80.0	20.1
Lose	60.0	9.9
Keep	60.0	9.9
Search	66.6	7.6
Popular Pharmacy	66.6	7.6
Health unit	31.2	5.0
I need Use	28.1	7.6

CLASS 3 — 29 ST (15.9%)

Word	%	X^2
Search	80.0	32.6
Deny	80.0	15.8
Need	40.0	12.6
Salary	55.5	11.1
Give	34.6	8.0
Right	22.5	7.7
Less	42.8	3.98

Figure 1. Dendrogram referring to the distribution of classes according to the descending hierarchical classification on the use of the right to health of users with diabetes mellitus. Cuité, PB, Brazil, 2020-2021.
Source: Survey data, 2021.

Class 6 is related to the difficulty in accessing rights due to the bureaucratization of the services, being subdivided into classes 3 and 4, which revealed the "search for rights due to the need for financial issues" and "search for rights for recognizing them as a duty of the State" respectively.

In Figure 2, it is inferred that users with self-reported skin color black/pard were associated with class 6; users with income up to two minimum wages were associated with class 6; and users with self-reported skin color white and income above two minimum wages were associated with class 5.

Thus, users with family income ≤ 2 two minimum wage (n=145; 70.4%) had a higher score in the level of use of the right to health, 25.0 (p=0.025), besides being related to Class 6 - "difficulty in access to rights due to bureaucratic services". Users with self-reported black skin color (n=130; 63.1%) had a higher score in the level of use of the right to health , 24.0 (p=0.032), being associated with Class 6 - "difficulty in access to rights due to bureaucratic services". It is noteworthy that Class 6 is subdivided into Classes 3 and 4, which revealed the "search for rights due to the need for the financial issue" and "search for rights for recognizing it as a duty of the State" respectively. Therefore, the convergence of the quantitative and qualitative results is explicit, broadening the integration of the data and facilitating the visualization of the global idea of the phenomena under study.

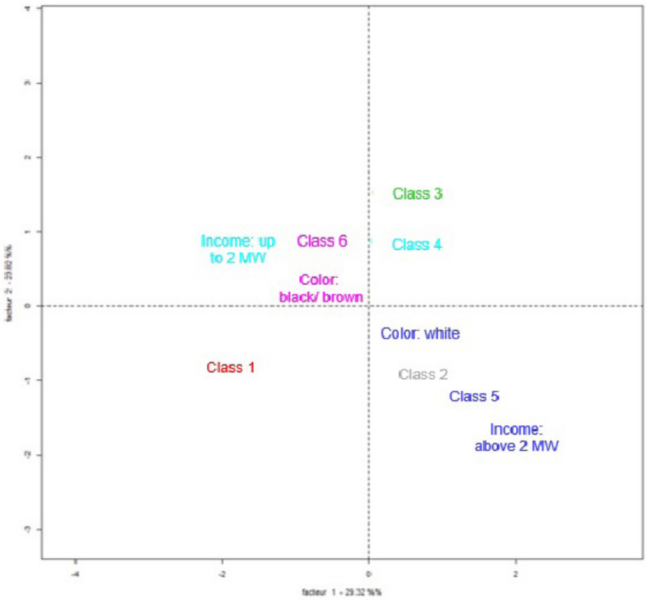


Figure 2. Factorial Correspondence Analysis highlighting the relationship between the classes and the exposure variables. Cuité, PB, Brazil, 2020-2021.
Source: Survey data, 2021.

DISCUSSION

The socioeconomic and clinical data of this research present similarities with another study developed in Brazil, showing a higher number of users with type 2 DM, which may be related to the age range, which shows a predominance of people aged 60 years or older.[16]

It is noteworthy that the understanding of the use of the right to health by users with DM, regardless of type, is relevant, since for every two people living with type 1 DM, one dies due to lack of access to basic care; moreover, it is estimated that one in two people with type 2 DM does not know he/she has the disease or does not have access to oral medications.[17] Therefore, it is understood that the need for knowledge and use of care and therapy is inherent to the aforementioned groups.

Corroborating other studies conducted in Piauí and Pernambuco, a low family income is evidenced among the research participants.[18-19] The financial insufficiency of the person with DM can directly compromise the control and maintenance of their treatment, while the available financial resources are allocated to basic resources in the survival of the family.[20] In this premise, it is noteworthy that it is the State's duty to guarantee access to medicines, and more importantly, to protect the health of the person with DM, thus ensuring the availability of resources that allow the development of therapeutic measures in an integral and appropriate manner.[8,21]

In addition, a population-based study developed in Brazil emphasizes that the search for the right to health was predominant in low-income populations without private health insurance coverage. Therefore, the financing of pharmaceutical assistance by the State contributes significantly to equity in access to health care and therapeutic adherence to treatment for the population with diabetes.[21]

It is important to emphasize that access to treatment and supplies, free of charge, is a right of all citizens, regardless of social class or income. Furthermore, the preference to pay for services, medicines, and supplies for some is financially feasible; however, the quality of public services should not be inferior to that of private services.

The results of this study also point out that although the population with low socioeconomic status has sought more health services, there is a difficulty in access due to bureaucratization. It is pointed out that the difficulties in access to public health care are motivated by the social inequalities that are present in Brazilian society and that affect, above all, the most vulnerable segments of contemporary society.[22]

A study developed in Germany, France, and the United Kingdom also evidenced that users with economic difficulties were the ones who faced greater obstacles in the use of the health services they sought.[23] Research developed in Argentina, with indigenous communities, also inferred that there are disadvantages in access to health and information for people with socioeconomic resources deficit living with diabetes.[24]

Moreover, this research shows a relationship between self-reported skin color, family income and the use of the right to health of users with DM. This can be confirmed, since most participants had financial difficulties that reflected in obtaining medicines and supplies based on rights by the SUS, free of charge.

Concomitant to this, the self-reported skin color (black/brown) showed a relationship with greater use of rights, however, presented greater difficulty in access due to bureaucratization. A longitudinal study of adult health (ELSA-Brazil) identified that participants of black or brown skin color/race were more likely to have inadequate glycemic control due to difficult access to health care.[25]

Throughout the historical and regional series, the white population also has an advantage in terms of labor income. This question is fundamental as it makes up an important source of income for the acquisition of goods and services and for the standard of consumption achieved by individuals and their families. In 2018, the average monthly income of white occupied people was 73.9% higher than that of black or brown people.[26]

This is due to a history of racial discrimination that is perpetuated, whose discrimination by color is strongly present in the labor market, since black/ brown people have less opportunity for qualified work, thus being necessary to resort only to public health services to be able to acquire the necessary inputs for treatment.[27]

Although Brazil is a country composed of a mixed and heterogeneous population, racial stigma persists and can negatively affect access to social and health rights, becoming a potential barrier to adequate and comprehensive care. In other countries, the black population also showed higher prevalence in the difficulty of access and use of health services at various levels of complexity and specialties when compared to other ethnic groups evaluated.[28]

Moreover, one of the main causes of inequality linked to low socioeconomic conditions that is related to the difficulty of access to health services is racial segregation, since they are part of historically marginalized groups, and there are regional differences related to residence, since the black population lives in peripheral neighborhoods, whose environments are precarious, with low availability of basic services such as sanitation, healthcare facilities, health equipment, impairing the levels of access to education, employment, opportunities, and especially to health services.[29] Therefore, the social determinants of health, including different political situations and many other social components, are crucial factors that determine the prevalence and high health costs of diabetes.[30]

It was also possible to observe that the difficulty in accessing health rights was associated with users' lack of knowledge and adequate information. Despite the advances legally achieved by public policies, the absence of knowledge in the field of rights is perceived in most people with DM in health services.

A study observed that the higher the economic level, the higher is the level of knowledge about metabolic dysfunction, reflecting positively on the adherence to the proposed therapy, going against the data exposed in this study, whose users who had income of up to two minimum wages had the knowledge that the search for rights was due to economic need.[31] This finding ratifies the view that the rights related to the health of people with DM are intended by the government for those with lower financial acquisition, as a complementary aid, solidarity action or generosity, as elucidated in class 5.

Therefore, knowing that chronic diseases such as DM disproportionately affects the poorer population, which is more likely to face difficulties in access to care and socioeconomic vulnerabilities, the financing of pharmaceutical assistance is essential for equity in access to health care for the population, since it has the competence to contribute to interventions and meeting the needs of people with DM in their uniqueness.[4]

The Institute for Applied Economic Research (IPEA- in Portuguese) pointed out that the expenses with medications and supplies by Brazilian families are the main components of health care spending, being higher among low-income families. A Brazilian study revealed that most individuals with DM acquire their hypoglycemic medications for free, through public health services, and most of these users are individuals with low economic status, thus converging with the findings of this study.[21]

Despite advances in public policies and actions aimed at meeting the overall health demands of users, it is still notorious that the SUS faces several challenges to meet the needs of users with DM. In this context, the unavailability of medications or materials and supplies is common, resulting in the search for the right to health. Given this, this arduous search for accessibility to health reveals a continuous growth in the number of lawsuits, which can be justified by the failure to comply with the equity actions proposed by SUS.[3]

CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

The results presented confirm that the more economically vulnerable a population is, the more, it strives to seek their rights to supply what they cannot acquire through purchasing. In addition, the disparity related to ethnic groups and access to health rights is evident, in which self-reported black and brown people make more use of their rights, although they are exposed to frequent bureaucratic barriers to their attainment. It reaffirms, therefore, the social stigma and vulnerability still superimposed on the black population in access to health services.

Moreover, it was observed the fragility associated with the knowledge of individuals about the meaning and extent of the right to health for the population with diabetes, since these are recognized by users only as a complementary aid or assistance offered by the government, mischaracterizing the real duty of the State, especially regarding equity and guarantee of resources that allow the development of therapeutic measures in an integral and appropriate manner.

It is noteworthy that this study raised important reflections on the knowledge and use of the health to right by individuals with DM, so it is expected that the data obtained will contribute to the development of new public policies and strategies to ensure rights and reduce social inequalities, focusing on primary health care professionals and users' autonomy to promote a qualified, informative, and humanitarian assistance.

However, as a limitation of this study, we highlight the methodological aspects related to the cross-sectional design selected to compose the research method, which only assesses the relationship between variables at a certain moment in time, making it impossible to establish the cause-and-effect relationship and longitudinally of data analysis. Added to this, another limitation to be considered stems from the concomitant methodological design of the mixed method, which does not allow an exploration of the results in two distinct moments of collection.

Thus, it is suggested that further research be developed to corroborate or refute the data presented to further deepen this subject of considerable relevance, especially from the perspective of health care users.

AUTHOR'S CONTRIBUTIONS

Study design. Raimunda Clara da Silva Araújo. Lidiane Lima de Andrade.

Data acquisition. Raimunda Clara da Silva Araújo. Patrício de Almeida Costa. Maria Nielly Santos Celestino. Mariana Érica da Silva Paixão. Lidiane Lima de Andrade.

Data analysis and interpretation of results. Raimunda Clara da Silva Araújo. Patrício de Almeida Costa. Maria Nielly Santos Celestino. Mariana Érica da Silva Paixão. Carla Lidiane Jácome dos Santos. Luciana Dantas Farias de Andrade. Matheus Figueiredo Nogueira. Lidiane Lima de Andrade.

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REFERENCES

1. Costa PA, Oliveira Na MS, Azevedo TS, Cavalcanti LT, Rocha SRS, Nogueira MF. Emotional distress and adherence to self-care activities in older adults with diabetes mellitus. Rev Rene. 2022 Jun;23:e72264. http://dx.doi.org/10.15253/2175-6783.20222372264.
2. Vale BT. Diabetes Mellitus um problema de saúde pública. Rev Saúde Foco [Internet]. 2018 [cited 2021 Aug 3]; 9:779-83. Available from: https://portal.unisepe.com.br/unifia/wp-content/uploads/sites/10001/2018/09/088_DIABETES_MELLITUS_UM_PROBLEMA_DE_SAÚDE.pdf

3. Silva AD, Matos Jr NL, Damasceno DD, Guimarães NS, Gomes JMG. Nutritional status, risk factors and comorbidities in adults with type 2 diabetes mellitus. HU Rev. 2020 May;46:1-9. http://dx.doi.org/10.34019/1982-8047.2020.v46.28790.
4. Saulsberry L, Peek M. Financing diabetes care in the US health system: payment innovations for addressing the medical and social determinants of health. Curr Diab Rep. 2019 Nov;19(11):136. http://dx.doi.org/10.1007/s11892-019-1275-6. PMid:31748950.
5. Simone ALM, Melo DO. Economic impact of lawsuitsfor drug supply in the State of São Paulo. Cad Ibero Am Direito Sanit. 2019 Sep;8(3):60-9. http://dx.doi.org/10.17566/ciads.v8i3.565.
6. Lei n. 11.347 de 27 de setembro de 2006 (BR). Dispõe sobre a distribuição gratuita de medicamentos e materiais necessários à sua aplicação e à monitoração da glicemia capilar aos portadores de diabetes inscritos em programas de educação para diabéticos. Diário Oficial da União, Brasília (DF), 28 Sep 2006: Seção 1: 1.
7. Lei n. 13.895 de 30 de outubro de 2019 (BR). Institui a Política Nacional de Prevenção do Diabetes e de Assistência Integral à Pessoa Diabética. Diário Oficial da União, Brasília (DF), 31 Oct 2019: Seção 1: 1.
8. Souza MAR, Wall ML, Thuler ACMC, Lowen IMV, Peres AM. The use of IRAMUTEQ software for data analysis in qualitative research. Rev Esc Enferm USP. 2018 Oct;52:e03353. http://dx.doi.org/10.1590/S1980-220X2017015003353. PMid:30304198.
9. Santos JLG, Erdmann AL, Meirelles BHS, Lanzoni GMM, Cunha VP, Ross R. Integrating quantitative and qualitative data in mixed methods research. Texto Contexto Enferm. 2017 Sep;26(3):e1590016. http://dx.doi.org/10.1590/0104-07072017001590016.
10. O'cathain A, Murphy E, Nicholl J. The quality of mixed methods studies in health services research. J Health Serv Res Policy. 2008 Apr;13(2):92-8. http://dx.doi.org/10.1258/jhsrp.2007.007074. PMid:18416914.
11. Bardin L. Análise de conteúdo. Lisbon: Edições 70; 2016.
12. Ministério da Saúde (BR). Conselho Nacional de Saúde. Carta dos direitos dos usuários da saúde [Internet]. Brasília: Ministério da Saúde; 2011 [cited 2021 Aug 3]. Available from: http://www.conselho.saude.gov.br/biblioteca/livros/AF_Carta_Usuarios_Saude_site.pdf
13. Portaria nº 2.583, de 10 de outubro de 2007 (BR). Define elenco de medicamentos e insumos disponibilizados pelo Sistema Único de Saúde, nos termos da Lei nº 11.347, de 2006, aos usuários portadores de diabetes mellitus. Diário Oficial da União, Brasília (DF): 15 Oct 2007: Seção 1: 1.
14. Portaria nº 19, de 27 de março de 2019 (BR). Torna pública a decisão de incorporar insulina análoga de ação prolongada para o tratamento de diabetes mellitus tipo I, no âmbito do Sistema Único de Saúde - SUS. Diário Oficial da União, Brasília (DF): 29 Mar 2019: Seção 1: 1.
15. Catunda HLO, Bernardo EBR, Vasconcelos CTM, Moura ERF, Pinheiro AKB, Aquino PS. Methodological approach in nursing research for constructing and validating protocols. Texto Contexto Enferm. 2017;26(2):e00650016. http://dx.doi.org/10.1590/0104-07072017000650016.
16. Matias LDM, Lucena JGS, Azevedo TF, Silva ALDA, Costa MML, Andrade LL. Factors related to the prevention of covid-19 in people with diabetes: a cross-sectional study. Online Braz J Nurs. 2021 Sep;20(Suppl):e20216517. https://doi.org/10.17665/1676-4285.20216517.
17. Fralick M, Jenkins AJ, Khunti K, Mbanya JC, Mohan V, Schmidt MI. Global accessibility of therapeutics for diabetes mellitus. Nat Rev Endocrinol. 2022 Apr;18(4):199-204. http://dx.doi.org/10.1038/s41574-021-00621-y. PMid:35039662.
18. Silva ALD, Neves ELF, Lucena JGS, Oliveira Na MS, Azevedo TF, Nunes WB et al. Contact time in educational interventions and self-care of individuals with diabetes mellitus. Cogit Enferm. 2021;26:e72588. http://dx.doi.org/10.5380/ce.v26i0.72588.
19. Luz GOA, Alves DDA, Costa HKS, Silva Fo JC, Stratmann PF, Souza, MAO et al. Association between functional health literacy and self-care with diabetes mellitus. Cogit Enferm. 2019;24:e66452. http://dx.doi.org/10.5380/ce.v24i0.66452.
20. Trevizani FA, Doreto DT, Lima GS, Marques S. Self-care activities, sociodemographic variables, treatment and depressive symptoms among older adults with Diabetes Mellitus. Rev Bras Enferm. 2019 Nov;72(Suppl 2):22-9. http://dx.doi.org/10.1590/0034-7167-2017-0579. PMid:31826187.
21. Meiners MMMDA, Tavares NUL, Guimarães LSP, Bertoldi AD, Pizzol TDSD, Luiza VL et al. Access and adherence to medication among people with diabetes in Brazil: evidences from PNAUM. Rev Bras Epidemiol. 2017 Jul/Sep;20(3):445-59. http://dx.doi.org/10.1590/1980-5497201700030008. PMid:29160437.
22. Oliveira MJG, Miranda NVHR, Santiago DE. As desigualdades sociais como dificultadores do acesso à saúde pública: um estudo teórico. Rev Intraciência [Internet]. 2020 Dec; [cited 2022 Oct 25];20:1-9. Available from: https://uniesp.edu.br/sites/_biblioteca/revistas/20201125003000.pdf
23. Ferreira MRJ, Mendes NA. Commodification in the reforms of the German, French and British health systems. Ciên Saúde Colet. 2018 Jul;23(7):2159-70. http://dx.doi.org/10.1590/1413-81232018237.12972018. PMid:30020372.
24. Hirsch S, Alonso V. La emergencia de la diabetes en una comunidade tapiete de Salta: género, etnicidad y relaciones com el sistema de salud. Salud Colect. 2020 Sep;16:e2760. http://dx.doi.org/10.18294/sc.2020.2760. PMid:33147391.
25. Moraes HABD, Mengue SS, Molina MDCB, Cade NV. Factors associated with glycemic control in a sample of individuals with Diabetes Mellitus taken from the Longitudinal Study of Adult Health, Brazil, 2008-2010. Epidemiol Serv Saude. 2020 Jun;29(3):e2018500. http://dx.doi.org/10.5123/S1679-49742020000300017. PMid:32555973.
26. Instituto Brasileiro de Geografia e Estatística (IBGE). Desigualdades sociais por cor ou raça no Brasil [Internet]. Rio de Janeiro: IBGE; 2019 [cited 2021 June 29]. Available from: https://biblioteca.ibge.gov.br/visualizacao/livros/liv101681_informativo.pdf. Estudos e pesquisas. Informação demográfica e socioeconômica nº 41.
27. Campos-Vazquez RM, Medina-Cortina EM. Skin color and social mobility: evidence From Mexico. Demography. 2019 Feb;56(1):321-43. http://dx.doi.org/10.1007/s13524-018-0734-z. PMid:30411200.
28. MacDonald H, Papadopoulos A, Dewey C, Humphries S, Dodd W, Patel K et al. Sociodemographic factors associated with knowledge of type 2 diabetes in rural Tamil Nadu, India. Rural Remote Health. 2022 Jan;22(1):6855. http://dx.doi.org/10.22605/RRH6855. PMid:35051341.
29. Ogunwole SM, Golden SH. Social determinants of health and structural inequities -root causes of diabetes disparities. Diabetes Care. 2021 Jan;44(1):11-3. http://dx.doi.org/10.2337/dci20-0060. PMid:33571949.
30. Guo J, Wu Y, Deng X, Liu Z, Chen L, Huang Y. Association between social determinants of health and direct economic burden on middle-aged and elderly individuals living with diabetes in China. PLoS One. 2021 Apr;16(4):e0250200. http://dx.doi.org/10.1371/journal.pone.0250200. PMid:33857252.
31. Alemayehu AM, Dagne H, Dagnew B. Knowledge and associated factors towards diabetes mellitus among adult non-diabetic community members of Gondar city, Ethiopia 2019. PLoS One. 2020 Mar;15(3):e0230880. http://dx.doi.org/10.1371/journal.pone.0230880. PMid:32214398.

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