



ORIGINAL ARTICLE

Absenteeism of diabetics to appointments with an endocrinologist and its relationship with access to health services

Absenteísmo de diabéticos às consultas com endocrinologista e sua relação com o acesso aos serviços de saúde

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KEYWORDS

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ABSTRACT

Objective: To analyze the association between absenteeism and access to specialized consultations for diabetics, in the Unified Health System (SUS) in Espírito Santo (ES).

Methods: Cross-sectional study conducted using primary and secondary data with 472 diabetics \geq 18 years old scheduled in consultation with endocrinologist in the System of Regulation Centers of ES. The variables of the dimensions of access - availability, financial viability, and acceptability - were used to estimate the association with absenteeism. Logistic regression was used for the crude and adjusted analyses.

Results: An association was found between absenteeism of diabetics and the variables living less than 10 km from the provider (OR: 1.81; 95%CI: 1.16 - 2.82, $p = 0.01$), need for transportation (OR: 4.89; 95%CI: 2.54 - 9.42, $p < 0.001$), and having financial expenses to attend the appointment (OR: 2.06; 95%CI: 1.23 - 3.44; $p = 0.01$).

Conclusion: The main barriers of access to health services that contribute to the high prevalence of absenteeism from appointments with endocrinologists can be understood as a proxy for the socioeconomic status of diabetics and show close relationship with the social determinants of health.

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PALAVRAS-CHAVE

Absenteísmo
Acesso aos serviços de
saúde
Agendamento de
consultas
Atenção secundária
Diabetes mellitus

RESUMO

Objetivo: Analisar a associação entre o absenteísmo e o acesso às consultas especializadas dos diabéticos, no Sistema Único de Saúde (SUS) no Espírito Santo (ES).

Métodos: Estudo transversal realizado por meio de dados primários e secundários com 472 diabéticos ≥ 18 anos agendados em consulta com endocrinologista no Sistema de Centrais de Regulação do ES. As variáveis das dimensões do acesso - disponibilidade, viabilidade financeira e aceitabilidade - foram utilizadas para estimar a associação com o absenteísmo. Utilizou-se regressão logística para as análises bruta e ajustada.

Resultados: Encontrada associação do absenteísmo de diabéticos com as variáveis residir a menos de 10 km do prestador da consulta (OR: 1,81; IC95%: 1,16 - 2,82, $p = 0,01$), necessitar de transporte (OR: 4,89; IC95%: 2,54 - 9,42, $p < 0,001$) e ter gastos financeiros para comparecer à consulta (OR: 2,06; IC95%: 1,23 - 3,44; $p = 0,01$).

Conclusão: As principais barreiras de acesso aos serviços de saúde que contribuem para a alta prevalência de absenteísmo a consulta com endocrinologista podem ser entendidas como *proxy* da condição socioeconômica dos diabéticos e evidenciam estreita relação com os determinantes sociais de saúde.

INTRODUCTION

In the current epidemiological profile of chronic non-communicable diseases, diabetes mellitus (DM) is an important cause of morbidity and mortality and health system costs worldwide¹. The Global Burden of DM in Brazil showed that it is the second leading cause of productive years of life lost to disability (6.1% of the disease burden) and 6.9% when due to premature deaths, which increases with advancing age².

In this sense, self-management and regular monitoring of diabetics in the health services becomes essential, aiming to prevent damage, especially irreversible damage that leads to disability or premature death, as well as adverse social and economic effects³.

Absenteeism, understood as an individual's non-attendance at a scheduled medical appointment, generates a great obstacle to the continuity of DM treatment, as well as to prevention and timely intervention^{4,5}.

Moreover, absenteeism generated by missed appointments is a lost opportunity to offer assistance and care to another individual who needs health care. This has repercussions in the increase of repressed demand for specialized consultations, queues, long waiting times, waste of public resources, as well as a negative impact on clinical efficiency and health service management⁶⁻⁸.

Absenteeism represents a chronic problem in all health systems worldwide. The overall average rate has been estimated at 23% and increases when analyzed by medical specialty^{9,10}. For diabetics, the absenteeism rate ranged from 8% to 64%^{4,5,11}.

In Brazil, no studies have analyzed the relationship of absenteeism of diabetics to scheduled medical appointments in the Unified Health System (SUS) were found. However, research on the absenteeism to specialized appointments for several diseases showed rates equal to or higher than 25%. These studies revealed some factors associated with the absenteeism to specialized appointments, such as sociocultural, financial, and geographic barriers, and highlighted differences in the supply and organization of health services^{6,8,12-15}.

A meta-synthesis study showed that absenteeism

at medical appointments might be, among others, a problem related to access barriers to health services¹⁶.

Access is a multidimensional concept that cannot be translated only as the use of health services but also as the opportunity to use them, which implies a set of favorable circumstances and the power of choice in a given context^{17,18}.

Thiede, Akweongo, and McIntyre¹⁸ define access as representing the degree of adjustment between health services and the community through three dimensions - availability, accessibility, and acceptability, being understood as a model that proposes the operationalization of access to health services considering the approach of inequalities in the health system¹⁹.

That said, it is evident the need to analyze absenteeism from the viewpoint of medical specialty and specific populations to generate data to support the implementation of public health policies for people with chronic diseases in Specialized Outpatient Care (AAE)^{6,8,14,20}. Therefore, this study proposes to analyze the association between absenteeism and access to specialized consultations of diabetics in the SUS of the state of Espírito Santo (ES).

METHODS

This is a cross-sectional study with an analysis of primary and secondary data conducted with diabetics living in ES and scheduled for appointments with an endocrinologist at SUS from January to December 2018.

ES has an estimated population of 4,064,052 inhabitants²¹ and is divided into four health regions according to the Health Regionalization Master Plan (PDR-ES) - North, Central, Metropolitan, and South²².

Secondary data regarding individuals who made appointments with an endocrinologist in 2018 were obtained from the Outpatient Regulation Center of the ES State Secretariat through the Regulation Center System (SISREG). From the list of individuals registered in SISREG, data on identification, residence, consultations requested, performed, and absenteeism were extracted. Subsequently, the individuals were selected according to the International Classification of

Diseases (ICD-10), referring to DM: E10.0 to E12.0, E13.0, E13.1, E14.0, E14.3, E14.4, E14.8, E14.9, G59.0, G63.2, G99.0, H36.0, O24, and R730.

The study population consisted of individuals aged 18 years or older, referred as to DM in SISREG, residing in ES, scheduled for consultation with the endocrinologist by SISREG in 2018, and who agreed to the informed consent form (ICF). We performed reading of the ICF while recording the call using a free cell phone application.

The sample size calculation was based on the prevalence of absenteeism of diabetics, according to the secondary database, 80% power of the study, 95% confidence interval (95%CI), and the ratio of one absentee to two non-absentees, respecting the proportion of appointments scheduled with the endocrinologist in the four health regions. The odds ratio between absenteeism and associated factors was estimated at 1.80, and in the non-absentee group, we considered 25% exposure. The final population consisted of 472 diabetics randomly selected, and in cases of exclusion, a new drawing was carried out. We excluded diabetics who were institutionalized, unable to answer, refused to participate, whose telephone or cell phone number belonged to another person, did not answer four telephone call attempts, or were denied a DM diagnosis.

The primary data collection occurred between May 2019 and January 2020 and was conducted by four interviewers trained and calibrated for questionnaire application and interview standardization, to homogenize the collection. The structured interviews were conducted via telephone calls with an average duration of 30 min, on various days and times, including weekends. During the phone call, the interviewers initially read a brief text containing a presentation of the institution and how the participant's phone number was acquired and drawn. Later, they read the informed consent form with the question: "the call is being recorded, and if you understand all the information provided here, answer if you agree to participate in this research by phone or cell phone?"

Absenteeism (dependent variable) was assessed by the lack of one or more consultations in SISREG during the evaluated period. The classification of the absentee category was confirmed through the interview. Reclassification was adopted in the following situations: a) having gone to the appointment, but the endocrinologist did not show up (4); b) reporting that he was unaware of the appointment scheduling (15); and c) having arrived late and not making the appointment (5). Therefore, 24 absentee patients with diabetes interviewed were reclassified as non-absentees.

We defined access as the "freedom to use health services" represented by three dimensions: availability (existence of appropriate health services within users' reach), financial feasibility (direct and indirect costs of care in relation to users' ability to pay), and acceptability (interaction between users' expectations regarding service providers)¹⁸.

Regarding the independent variables, the following dimensions of access to health services were considered: 1) availability - scheduling of the consultation performed by the diabetic's health unit, perceived time between leaving for consultation and

returning to the residence (hours), distance between the residence and the consultation provider (kilometers), residence in the same municipality of the provider of the consultation with endocrinologist; 2) financial viability - need for some kind of transportation to attend the appointment, payment for some kind of health treatment for DM, payment for some medicine for the treatment of DM, financial expense to attend the appointment, loan/indebtedness to attend the appointment, loss of productivity/income to attend the appointment, number of appointments scheduled with the endocrinologist in the reference year; and 3) acceptability - existence of group activity or educational meetings for diabetics, participation in group activities or educational meetings for diabetics in your health unit, quality of health services in your health unit, perception of positive aspects in the health unit.

To analyze the access of diabetics to consultations with the endocrinologist, a previously described and validated instrument was used²³.

The data obtained are described using absolute and relative frequency according to each study variable. Logistic regression analyses were performed to analyze absenteeism. The category of variables that presented the best condition for the outcome was considered the reference for the analyses. Variables with $p < 0.20$ were included in the adjusted model. A 5% significance level was considered for permanence in the final model. Additionally, the crude and adjusted odds ratios (OR) and their respective confidence intervals (95%CI) are presented. Data were entered into Epi Info 7.2.4.0 and analyzed by Stata® software, version 14.

The research was approved by the Ethics Committee on Research with Human Beings of the Health Sciences Center of the Federal University of Espírito Santo (CEP) according to resolution No. 466/2012 of the National Research Ethics Council (CONEP) and the ES State Health Secretariat, under CAAE 04078918.2.0000.5060.

RESULTS

The secondary database comprised 4,136 individuals; of this total, 1,537 (37.50%) had one or more absences to scheduled appointments.

The study interviewed 472 people with diabetes, with 140 absentees and 332 non-absentees. According to the sample replacement plan, 3,280 phone calls were made, and 2,808 individuals whose phone number was not registered in SISREG (559), did not exist (610), did not receive calls (353), belonged to another person (333), and did not answer after four attempts (698) were replaced. Those who reported not having DM (102), were unable to answer (14), refused participation (108), and deaths (31) were also replaced (Data not shown in table).

Most diabetics were women (71.19%), had a similar proportion to young adults and the elderly (51.27%), were black and brown (66.31%), had less than four years of schooling (43.43%), lived with their partners (66.74%), lived in urban areas (85.38%), and had a mean household income per capita of half minimum wage (35.81%) (Table 1).

Regarding access to health services, we observed that in the dimension availability, most of the appointments for appointments with an endocrinologist were made by the health unit (76.48%), approximately half of the diabetics lived less than 10 km from the provider of the appointment with the endocrinologist (52.33%), and almost three quarters lived in the same municipality of the provider of the appointment with the endocrinologist (74.79%) (Table 2).

In the financial viability dimension, most diabetics needed some transportation to attend the appointment with the endocrinologist (84.75%), did not need to pay for treatment (76.69%) and medication (66.10%), had financial expenses to attend the appointment (63,98%), did not need a loan or were in debt (85.17%), did not lose productivity/income to go to the appointment (81.99%). A little more than half of the diabetics had only one appointment with the endocrinologist in the reference year (54.03%) (Table 2).

Regarding the acceptability dimension, it was observed that most diabetics did not know of the existence of group activity or educational meetings (71.40%), did not participate in a group activity or educational meetings (86.65%), considered the quality of health services as good or very good (80.72%), as well as perceived positive aspects in their health unit (65.68%) (Table 2).

Table 3 presents the final model with the exposures associated with absenteeism from diabetic appointments with an endocrinologist. The chance of absenteeism from appointments with the endocrinologist was higher among diabetics who lived less than 10 km from the appointment provider (OR: 1.81; 95%CI: 1.16 - 2.82, $p = 0.01$); required transportation (OR: 4.89; 95%CI: 2.54 - 9.42, $p < 0.001$) and had financial expenses to attend the appointment (OR: 2.06; 95%CI: 1.23 - 3.44, $p = 0.01$).

Table 1 – Distribution of diabetic absenteeism to consultations with endocrinologist according to socioeconomic and demographic characteristics. Espírito Santo, Brazil, 2018. Values in n (%).

Variables	Total	Absenteeism	
		Yes	No
Gender			
Female	336 (71,19)	105 (31,25)	231 (68,75)
Male	136 (28,81)	35 (25,74)	101 (74,26)
Age group			
≥ 60 years old	242 (51,27)	75 (30,99)	167 (69,01)
20 - 59 years old	230 (48,73)	65 (28,26)	165 (71,74)
Race/Color			
White	159 (33,69)	44 (27,67)	115 (72,33)
Black / Brown	313 (66,31)	96 (30,67)	217 (69,33)
Schooling			
≥ 12 years	28 (5,93)	10 (35,71)	18 (64,29)
9 - 11 years	116 (24,58)	36 (31,03)	80 (68,97)
5 - 8 years	123 (26,06)	33 (26,83)	90 (73,17)
≤ 4 years	205 (43,43)	61 (29,76)	144 (70,24)
Marital status			
With mate	315 (66,74)	86 (27,30)	229 (72,70)
No mate	157 (33,26)	54 (34,39)	103 (65,61)
Housing area			
Urban	403 (85,38)	120 (29,78)	283 (70,22)
Rural	69 (14,62)	20 (28,99)	49 (71,01)
Average household income per capita			
≤ R\$ 499,00	169 (35,81)	62 (36,69)	107 (63,31)
R\$ 500,00 - R\$ 998,00	159 (33,69)	40 (25,16)	119 (74,84)
> R\$ 998,00	144 (30,51)	38 (26,39)	106 (73,61)
Total	472 (100)	140 (100)	332 (100)

DISCUSSION

No similar studies in Brazil analyzed the absenteeism to appointment in EFA considering different specialties and populations, respectively, endocrinology and diabetics. Neither were studies anchored in theoretical and conceptual references of access to health services based on availability, financial viability, and acceptability.

In Brazil, the numerous challenges related to supply limitations, the growing demand for health services in AAE, and the high rate of absenteeism in this point of care, generally equal to or greater than 25%^{6,8,12-15}, are well known. This situation highlights a paradox in the access to health services - a contradiction between the limited supply and the absenteeism in specialized consultations.

Table 2 – Distribution of diabetic absenteeism to consultations with endocrinologists according to the dimensions of access to health services. Espírito Santo, Brazil, 2018. Values in n (%).

Variables		Total	Absenteeism	
			Yes	No
Availability				
The appointment with the endocrinologist was scheduled by the diabetic health unit	Yes	361 (76,48)	106 (29,36)	255 (70,64)
	No	111 (23,52)	34 (30,63)	77 (69,37)
Perceived time between leaving for consultation with endocrinologist and return to residence (h)	≤ 4h	237 (50,21)	85 (35,86)	152 (64,14)
	5 a 8 h	152 (32,2)	35 (23,03)	117 (76,97)
	≥ 9h	83 (17,58)	20 (24,10)	63 (75,90)
Distance between diabetic residence and consultation provider (Km)	≥10 Km	225 (47,67)	74 (32,89)	151 (67,11)
	< 10 Km	247 (52,33)	66 (26,72)	181 (73,28)
Residence in the same municipality as the consultation provider with endocrinologist	Yes	119 (25,21)	38 (31,93)	81 (68,07)
	No	353 (74,79)	102 (28,90)	251 (71,10)
Financial Viability				
Need for some kind of transport to attend the consultation with the endocrinologist	No	72 (15,25)	49 (68,03)	23 (31,94)
	Yes	400 (84,75)	91 (22,75)	309 (77,25)
Payment for some type of health treatment for diabetes mellitus	No	362 (76,69)	110 (30,39)	252 (69,61)
	Yes	110 (23,31)	30 (27,27)	80 (72,73)
Payment for any medicine for the treatment of diabetes mellitus	No	312 (66,10)	97 (31,09)	215 (68,91)
	Yes	160 (33,90)	43 (26,88)	117 (73,13)
Financial expense to attend the consultation	No	170 (36,02)	80 (47,06)	90 (52,94)
	Yes	302 (63,98)	60 (19,87)	242 (80,13)
Loan / indebtedness to attend the consultation	No	402 (85,17)	124 (30,85)	278 (69,15)
	Yes	70 (14,83)	16 (22,86)	54 (77,14)
Loss of productivity / income to attend the consultation	No	387 (81,99)	118 (30,49)	269 (69,51)
	Yes	85 (18,01)	22 (25,88)	63 (74,12)
Amount of consultation scheduled with the endocrinologist in the reference year	Just one query	255 (54,03)	70 (27,45)	185 (72,55)
	More than one query	217 (45,97)	70 (32,26)	147 (67,74)
Acceptability				
Existence of group activity or educational meetings for diabetics	Yes	135 (28,60)	50 (37,04)	85 (62,96)
	No	337 (71,40)	90 (26,71)	247 (73,29)
Participation in group activities or educational meetings for diabetics in your health unit	Yes	63 (13,35)	20 (31,75)	43 (68,25)
	No	409 (86,65)	120 (29,34)	289 (70,66)
Quality of health services in your health unit	Yes	381 (80,72)	107 (28,08)	274 (71,92)
	No	91 (19,28)	33 (36,26)	58 (63,74)
Perception of positive aspects in the health unit	Yes	310 (65,68)	90 (29,03)	220 (70,97)
	No	162 (34,32)	50 (30,86)	112 (69,14)
Total		472 (100)	140 (100)	332 (100)

Table 3 – Factors associated with absenteeism of diabetics to consultations with endocrinologists according to variables of the dimensions of access to health services. Espírito Santo, Brazil, 2018.

Dimensions		OR	Gross Analysis		Adjusted Analysis		
			IC 95%	p-value	OR	IC 95%	p-value
Availability							
The appointment with the endocrinologist was scheduled by the diabetic health unit	Yes	1					
	No	1,94	0,59 - 1,50	0,80	-	-	-
Perceived time between leaving for consultation with endocrinologist and return to residence (h)	≤ 4h	1					
	5 a 8 h	1,87	1,18 - 2,96	0,01			
	≥ 9 h	1,76	0,99 - 3,11	0,05	-	-	-
Distance between diabetic residence and consultation provider (km)	≥10 km	1			1		
	< 10 km	1,34	0,90 - 1,99	0,14	1,81	1,16 - 2,82	0,01
Residence in the same municipality as the consultation provider with endocrinologist	Yes	1					
	No	0,15	0,74 - 1,81	0,53	-	-	-
Financial Viability							
Need for some kind of transport to attend the consultation with the endocrinologist	No	1			1		
	Yes	7,23	4,18 - 12,51	<0,001	4,89	2,54 - 9,42	< 0,001
Payment for some type of health treatment for diabetes mellitus	No	1					
	Yes	1,16	0,72 - 1,87	0,53	-	-	-
Payment for any medicine for the treatment of diabetes mellitus	No	1					
	Yes	1,23	0,80 - 1,87	0,34	-	-	-
Financial expense to attend the consultation	No	1			1		
	Yes	3,58	2,37 - 5,42	<0,001	2,06	1,23 - 3,44	0,01
Loan / indebtedness to attend the consultation	No	1					
	Yes	1,50	0,83 - 2,73	0,18	-	-	-
Loss of productivity / income to attend the consultation	No	1					
	Yes	1,26	0,74 - 2,14	0,40	-	-	-
Amount of consultation scheduled with the endocrinologist in the reference year	Just one query	1					
	More than one query	1,79	0,53 - 1,18	0,25			
Acceptability							
Existence of group activity or educational meetings for diabetics	Yes	1					
	No	1,61	1,05 - 2,47	0,03	-	-	-
Participation in group activities or educational meetings for diabetics in your health unit	Yes	1					
	No	1,12	0,63 - 1,98	0,70	-	-	-
Quality of health services in your health unit	Yes	1					
	No	0,69	0,42 - 1,11	0,13	-	-	-
Perception of positive aspects in the health unit	Yes	1					
	No	0,92	0,60 - 1,39	0,68			

To expand access to health services, the Ministry of Health (MH) established the Health Care Network (RAS) for people with chronic diseases and defined the guidelines for the organization of lines of care to ensure completeness and longitudinality in the different points of care²⁴. However, challenges persist to the strengthening of Primary Health Care (PHC) as the maintainer of coordinated, continuous, and comprehensive care²⁵ and the regulation of AAE recognized as an obstacle of SUS due to its insufficient and heterogeneous structure in the SAW^{26,27}.

Consistent with the MS, similar initiatives have been observed in the ES, such as the implementation of four Specialty Reference Centers in the Health Regions and the implementation of four units of the Rede Cuidar (care model that prioritizes care for people with chronic health conditions) that currently assist 46 municipalities²⁸.

Regarding the availability dimension, notably the geographical barriers related to the displacement of individuals to health services are imbricated in health policies and the organizational principles of SUS - regionalization and hierarchization²⁹. In this sense, the closer the individual is to the health service offered, the easier it will be to access them^{17,18}.

However, diabetics who lived closer to the appointment provider - i.e., the Regional Specialty Center (CRE) - had 81% greater chance of absenteeism. This result probably reflects the organizational differences in the existing logistic system among the capixaba municipalities, especially regarding the municipal configuration to organization, availability and offer of transportation to patients who access the reference services for medical consultation. According to Mendes³⁰, logistic systems are the technological solutions that guarantee the rational organization of the flow and counterflow of information, products, and people in the RAS.

That said, a study conducted in Recife (PE) showed that the health transport (vehicle for the scheduled displacement of people to perform elective procedures in the SUS), an important mechanism of the logistics system, was inopportune, making it challenging to ensure the flow of people in the health care network of individuals with DM³¹.

It is possible to assume that there is better planning and logistical organization in municipalities more distant from the CREs, in which health transportation ensures the flow of diabetics through scheduling. In this context, studies conducted in Belo Horizonte (MG), São Paulo (SP), and Guarapari (ES) corroborate the conjecture by showing that the probability of absenteeism to medical appointments decreases when free transportation to health services is available, or even transportation vouchers in some situations^{8,15,32}.

Another point to consider is that most ES municipalities are small and medium-sized, and half of the state population is concentrated in the Greater Vitória Metropolitan Region, which has the greatest capacity for health services and actions²¹. These differences point to inequalities in the distribution of financial resources and health care investments that directly impact the supply and organization of health

services for AAE²².

One possible explanation for absenteeism being higher among diabetics who live closer to the consultation provider in the SUS is the perception that they can reschedule their consultations easily and quickly at any time. Alternatively, living further away can be a factor that motivates attendance to consultations when considering transport difficulties, expenses, and rescheduling. Additionally, it can be speculated that in smaller municipalities, community health agents are generally responsible for both scheduling at the Municipal Marking Agency (AMA) and for notifying and reminding diabetics of the day and time of their specialized consultation. It should be considered that the various forms of scheduling specialized consultations between municipalities and the forms of communication and information to the SUS user can also contribute to the absenteeism of diabetics.

However, unlike the result found, some studies reinforce that the greater distance between the individual's residence and the place of the consultation provider is predictive of absentee behavior due mainly to financial problems, difficulty in locomotion and comorbidities, among others^{6,10,33,34}.

Regarding the financial viability dimension, among diabetics who reported needing transportation to attend the consultation with the endocrinologist (412), the majority depended on transportation at their own cost (77.43%), and almost half had financial expenses with transportation (44.42%). An explanatory hypothesis is that, among the surrounding municipalities, health transport is inefficient or insufficient. Thus, the lack and/or ineffectiveness of transportation adds to the financial unfeasibility for displacement and contributes to absentee behavior.

One can also assume that there may be an incompatibility of times between self-costing transportation and scheduled consultation. It is believed that the need for transportation for attending the consultation with the endocrinologist is not only tied to the availability of adequate transportation but mainly to a set of favorable circumstances that allow its use¹⁸. Concerning these circumstances, some studies have pointed out that the lack of health transportation, problems with transportation^{8,15,34}, and financial difficulties^{6,17,20} are substantial barriers to access and common predictors of absenteeism¹⁰.

Furthermore, it is essential to reflect that the regulation of access in the SUS can provide accurate information regarding the number of people transported from a given city, absences from consultations and other procedures and, therefore, promote better planning and organization of health services³⁰. From this perspective, Minas Gerais (MG) implemented a state health transportation system in partnership with health consortia from different regions and municipalities that allowed the transportation of users from small municipalities to the AAE centers. The development of this system promoted greater humanization in assisting users and servers of the SUS, reducing absenteeism in the AAE and, consequently, lowering expenditure on health services³².

Acceptability was not statistically significant when the analysis was adjusted in this study. In fact, it

is the less tangible dimension of access, and it presents a subjective character, difficult to quantify and detect but relevant for equity in health care³⁵.

It can be inferred, therefore, that the relationship between diabetic absenteeism and access to a consultation with an endocrinologist in the SUS is closely related to social determinants of health since social stratification can limit the health capacity of individuals in society, as well as generate inequalities in the opportunity to exercise their freedoms of use of health services¹⁹.

Some limitations of this study should be weighed. The conduct of the interview by telephone restricted access to a particular profile of participants, that is, those who have a telephone line. In addition, the duration of the interview was an obstacle to the participants' support due to occupation, little patience to answer questions or mistrust. Furthermore, selection bias is considered possible³⁶ when considering the approach of 2,808 diabetics drawn for different reasons and the occurrence of memory bias³⁶ because some data were collected up to one year after the outcome. Thus, it is essential to develop strategies that immediately identify the reasons for absenteeism in consultations, given the existence of a complex network of regulators, such as hospitalization centers, consultation centers, and diagnostic and therapeutic support services, already established in the SUS.

It is noteworthy that the diabetic reclassification

procedure for the absentee category, confirmed by telephone call, is a positive aspect of the study and reduces confounding.

This is a relevant study for public health because it considers the barriers to access related to the absenteeism of diabetics to consultation with an endocrinologist, which can contribute to the increase in the necessary database as a predictive factor for the strengthening of public health policies in Brazil.

CONCLUSION

Diabetic absenteeism to consultation with the endocrinologist in the SUS is associated with the shorter distance between the residence and the service provider, the need for travel support, and financial expenses for attending the consultation. Therefore, they can be understood as a proxy for the socioeconomic status of diabetics.

Thus, as necessary as the planned provision of health services based on the lines of care is the structuring of a logistic system that promotes an effective articulation between PHC, the AAE, and the needs of diabetics, in addition to intersectoral and cross-sectional actions that include social, economic and health policies, to ensure care and care with equity, longitudinality, and integrality in health care networks.

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