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ADMISSIONS FOR DIABETIC FOOT IN BRAZIL (2011-2021): REGIONAL ANALYSIS AND BODY MASS CORRELATION

INTERNAÇÕES POR PÉ DIABÉTICO NO BRASIL (2011-2021): ANÁLISE REGIONAL E CORRELAÇÃO DE MASSA CORPORAL

ADMISIONES POR PIE DIABÉTICO EN BRASIL (2011-2021): ANÁLISIS REGIONAL Y CORRELACIÓN DE MASA CORPORAL

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ABSTRACT

Objective: To investigate hospital admissions in the period described by region in Brazil and correlate nutritional variables. **Methods**: Descriptive, retrospective, and quantitative epidemiological study, with data from DATASUS and SISVAN between 2011 and 2021. The variables were the number of treatments, region, year, hospitalizations, average length of stay, hospital costs, average amount spent, deaths, mortality rate, amputations, nutrition, and BMI. **Results**: Hospitalizations had a significant positive correlation (0.7) with overweight and obesity in all regions. The AIH increased in all regions was the lowest R^2 in the Midwest (0.882). There was an increase in the weight of the population (2011 to 2018), with a reduction in the percentage of underweight and adequate-weight people, the highest in the North (17.5%), the lowest in the South (11.5%), and an there was an overweight and obesity in the Northeast (19%). **Conclusion**: A positive correlation between nutrition and hospitalization authorization can be attested.

Descriptors: Amputation Surgical; Diabetes mellitus; Nutritional status; Diabetic foot.

RESUMO

Objetivo: Investigar as internações hospitalares no período descrito por região no Brasil e correlacionar as variáveis nutricionais. **Métodos**: Estudo epidemiológico descritivo, retrospectivo e quantitativo, com dados do DATASUS e SISVAN entre os anos de 2011 a 2021. As variáveis foram número de tratamentos, região, ano, internações, média de permanência, custos hospitalares, valor médio gasto, óbitos, taxa de mortalidade, amputações, nutrição e IMC. **Resultados**: As internações tiveram correlação positiva com significância (0,7) com sobrepeso e obesidade em todas as regiões. A AIH aumentou em todas as regiões sendo o menor R^2 do Centro-Oeste (0,882). Houve aumento de peso da população (2011 a 2018), com redução da porcentagem de pessoas com baixo peso e peso adequado, a maior no Norte (17,5%), a menor no Sul (11,5%), e aumento em sobrepeso e obesidade no Nordeste (19%). **Conclusão**: Pode-se atestar a correlação positiva entre nutrição e autorização de internação hospitalar.

Descritores: Amputação cirúrgica; Diabetes mellitus; Estado nutricional; Pé diabético.

RESUMEN

Objetivo: investigar los ingresos hospitalarios en el período descrito por región en Brasil y correlacionar variables nutricionales. **Métodos**: Estudio epidemiológico descriptivo, retrospectivo y cuantitativo, con datos de DATASUS y SISVAN entre los años 2011 a 2021. Las variables fueron número de tratamientos, región, año, hospitalizaciones, estancia promedio, costos hospitalarios, monto promedio gastado, defunciones, tasa de mortalidad, amputaciones, nutrición e IMC. **Resultados**: Las hospitalizaciones tuvieron una correlación positiva significativa (0,7) con el sobrepeso y la obesidad en todas las regiones. El AIH aumentó en todas las regiones, con el menor R^2 en el Centro-Oeste (0,882). Hubo un aumento en el peso de la población (2011 a 2018), con una reducción en el porcentaje de personas con bajo peso y peso adecuado, el más alto en el Norte (17,5%), el más bajo en el Sur (11,5%) y un aumento del sobrepeso y la obesidad en el Nordeste (19%). **Conclusión**: Se puede comprobar la correlación positiva entre nutrición y autorización de ingreso hospitalario.

Descriptores: Amputación quirúrgica; Diabetes mellitus; Estado nutricional; Pie diabético.

INTRODUCTION

Diabetic Foot is characterized by a complication that affects the lower limbs of patients with Diabetes Mellitus (DM), associated with the presence of infection, ulceration and destruction of deep tissues due to the degree of neurological and vascular impairment.[1-2] Regarding the

etiopathogenesis, the presentations of Diabetic Foot can be classified as neuropathic, vascular or ischemic, and mixed. Neuropathic Foot is accompanied by progressive loss of sensitivity, with the main symptoms being tingling and burning sensations. In Vascular Foot, intermittent claudication is noted, with this pain resulting from insufficient blood supply to the leg muscles. In this condition, the absence of the posterior tibial and dorsalis pedis pulses may be present, making the foot cold to the touch. Furthermore, Mixed Foot represents the combination of neuropathic and ischemic findings.[2-3]

Aggravating factors for diabetic foot include ulcerations with loss of sensitivity, presence of calluses and non-ulcerated lesions, use of inadequate footwear, poor hygiene, tobacco, dyslipidemia, peripheral ischemia and difficulty in accessing the health system.[1-4] Diabetic foot has several repercussions that directly impact the well-being and lifestyle of the affected patient. For the individual, amputation resulting from complications of DM leads to reduced mobility and consequent social isolation. Self-esteem and the way the patient sees themselves within the family and community environment are also altered, leading to higher levels of depression and worse psychological adaptation to the disease.[5-6]

In Primary Care, the multidisciplinary team plays a significant role in improving DM management and reducing the resulting complications that lead to patient amputation and, consequently, reducing the number of deaths. Taking the patient's history and physically examining the feet, starting with removing shoes and socks, are simple and necessary measures for assessing the patient. When identifying patients at risk, it is important to educate the diabetic and his/her family, and provide all necessary support during treatment, in order to reduce the risk of lesions and ulcers in the lower limbs, especially in those who are more socially vulnerable. Patient education consists of information on glycemic and nutritional control, correct use of medications, care regarding the appropriate use of shoes, foot hygiene and self-examination.[1,2,3,5]

Nutritional transition and reduced physical activity contribute to increased obesity and consequent worsening of DM. In this sense, nutritional guidance coupled with changes in lifestyle habits are essential for reducing anthropometric measurements – weight, body mass index and abdominal circumference – resulting in adequate metabolic control in diabetic patients.[7] The nutritional status of patients with diabetic foot ulcers is affected by increased energy expenditure in wound healing and by the loss of nutrients due to inflammatory

exudate. The high level of stress on the body associated with deficient intake of energy, proteins and micronutrients results in the consumption of the body's muscle proteins as a source of energy, with consequent loss of muscle mass, in addition to loss of subcutaneous tissue and poor wound healing.[8-9]

Glycemic control is essential for preventing complications resulting from diabetes, since hyperglycemia hinders the inflammatory process and impairs the healing of diabetic foot wounds. Because it has a major impact on plasma glucose levels, patients with DM should be aware of the appropriate amount of carbohydrates to consume throughout the day.[9-10] Obesity is also a complicating factor for patients with diabetic foot. Performing the Body Mass Index (BMI), obtained by dividing the patient's weight (kg) by their height in meters squared, during the physical examination contributes to the analysis of the patient's nutritional status and consequent healing process of ulcerative wounds, and stratification of risks of foot injuries by biomechanical factors. Individuals with high BMI (grade I obesity: BMI = 30–34.9 kg/m²; grade II obesity: BMI = 35–39.9 kg/m² or grade III obesity: BMI ≥ 40 kg/m²) have larger contact areas and pressure peaks in the foot regions, thus increasing the risk of injuries and deformities. In addition, excess abdominal fat interferes with daily self-care of the feet in DM patients.[11-12]

Most hospital admissions are due to ulcers caused by the ischemia, neuropathy, and infection processes characteristic of diabetic foot. Patients with this type of lesion have a 59% longer hospital stay than people without this abnormality, and subsequently require a large number of outpatient visits for monitoring and ongoing home care. Healthcare costs in this scenario are 5 times higher when compared to patients without ulcers.[13-14] Ulcers with suspected bone or joint involvement; presence of cellulitis greater than 2 cm around the lesion; region presenting critical ischemia; presence of fever or other unfavorable systemic conditions are criteria established by the Ministry of Health (MS) for referral to hospitalization of patients with diabetic foot in the Health Care networks, which are adapted according to local prevalence and the capacity of professionals to adequately perform physical examinations and manage patients according to their needs.[2]

Furthermore, it is clear that diabetic foot represents a problem that must be addressed in a multidisciplinary manner, considering variables related to nutritional status, need for hospitalization, investment in health, among others that are preponderant for a deeper understanding of the disease. Thus, it is important that better

defined delimitations in relation to diabetic foot are elaborated in order to avoid the harm resulting from late diagnosis and the psychosocial consequences faced by diabetic patients. Therefore, the research aimed to investigate hospital admissions for Diabetic Foot over the years 2011 to 2021 by region in Brazil, using official data available in the Hospital Admission System of the Unified Health System (SIH/SUS) and correlate the nutritional variables in adults collected from the Food and Nutrition Surveillance System (SISVAN).

MATERIALS AND METHODS

This is a descriptive, retrospective and quantitative epidemiological study with data extracted from DATASUS (TABNET program,http://www.datasus.gov.br) and in SISVAN (https://sisaps.saude.gov.br/sisvan), which is in the public domain, therefore, authorization from the Research Ethics Committee (CEP) is not required to use data from this platform in the preparation of studies. Despite this, respect for the authorship of the sources of data researched is guaranteed, with reliability in relation to the interpretation of the information.

The sample population consisted of individuals treated for Diabetic Foot in Brazil between 2011 and 2021. The variables analyzed in DATASUS were: number of treatments, region, year of care, number of hospitalizations, average length of hospital stay, hospital costs, average amount spent, number of deaths, mortality rate, and amputations. The variables nutrition and BMI in adults were collected from SISVAN, with the data analyzed by Brazilian geographic regions and with greater emphasis on Tocantins. These variables analyze the nutritional status of Brazilian citizens, stratifying them into underweight, adequate weight, overweight, grade I obesity, grade II obesity, and grade III obesity. These data are important because the individual's nutritional status may or may not help the healing process of diabetic foot ulcers.

Data were collected in September 2022 using the search criteria Diabetic Foot and the epidemiological variables that enabled the study design. Data were tabulated and analyzed using descriptive statistics in Microsoft Excel 2010 and subsequently presented in the form of graphs and tables for display and interpretation of results. Analyses were performed using the ANOVA method to relate more than two variables by linear regression with a 95% confidence interval by bootstrap. No information extracted was manipulated by the researchers of this study and it is noteworthy that due to the SARS-CoV-2 (COVID-19) pandemic, the years 2020 and 2021 may have suffered underreporting on the DATASUS platform.

RESULTS

An evaluation was carried out of the evolution of the number of Hospital Admission Authorizations (AIH) for diabetic foot over the years and by region of the country. Table 1 shows the absolute values of AIH by year and by region of the country.

To determine the growth relationship of AIHs, linear regression was used with the years 2011 to 2021 as the independent variable and the AIH of each region as the dependent variable. The significance values, confidence interval to assess the slope of the curve and R2 for the percentage of variance determined by the model are given below (Table 2).

It is worth noting that population growth was not taken into account, since data from the Brazilian Institute of Geography and Statistics (IBGE) were not updated during this period, which could have had some impact on the analyses.

Subsequently, the correlation between the AIH time series and the series of the different BMI categories over the years and by region was determined, as well as the ANOVA method for several variables. In addition, the time series of the variable Death from Diabetic Foot (OBT) was also analyzed regarding its correlation with the BMI categories and in-hospital variables: Average number of days of hospitalization for complicated diabetic foot treatment (PERMED); and Average amount spent per hospitalization for complicated diabetic foot treatment (VALMED).

Table 1. Total AIHs for diabetic foot treatment by region from 2011 to 2021.

	North	North East	Southeast	South	Midwest
2011	1,334	4.161	4,514	1.065	773
2012	1.618	4.273	4,454	1.038	700
2013	1,681	4,786	4,943	1,137	794
2014	1,669	5.163	5.327	1,260	842
2015	1.944	6.070	5.629	1,496	1.044
2016	2.188	6.620	5.703	1.612	1,189
2017	2,577	7.185	6,510	1,629	1.262
2018	2,824	8,249	6,792	1,840	1,334
2019	2,885	9.231	7.231	2.005	1,471
2020	2,960	8,527	6,685	1.806	1,324
2021	3.621	9,804	7.361	1,767	1,363

Source: DATASUS, 2024.

Table 2. Parameters of the linear regression of the AIH of each region having as independent variable the years 2011 to 2021.

	95% Confidence Interval			
	Significance	**Lower**	**Superior**	**R²**
Midwest	< 0.001	57.16	100.63	0.882
North	< 0.001	177.63	247.05	0.955
North East	< 0.001	515.34	681.98	0.967
South	< 0.001	66.83	123.69	0.865
Southeast	< 0.001	249.79	365.37	0.942

Source: DATASUS AUTHOR, 2024.

For the correlation and ANOVA analyses that will be presented below, the names of the variables explored were reduced with the aim of simplification according to the list, namely BP, A, SP, OBG 1, OBG 2, OBG 3, AIH, OBT, PERMED and VALMED.

Table 3. Correlation between the AIH variable and the different BMI classifications by region of the country.

			AIHCO	**SPCO**	**OBG1CO**	**OBG2CO**	**OBG3CO**	**BPCO**	**STEEL**
Midwest	Person Correlation	**AIHCO**	1,000	0.905	0.923	0.896	0.707	-0.923	-0.919
	Significance			0.000	0.000	0.000	0.007	0.000	0.000
			AIHN	**SPN**	**OBG1N**	**OBG2N**	**OBG3N**	**BPN**	**AN**
North	Person Correlation	**AIHN**	1,000	0.928	0.954	0.961	0.918	-0.915	-0.956
	Significance			0.000	0.000	0.000	0.000	0.000	0.000

			AIHNE	SPNE	OBG1NE	OBG2NE	OBG3NE	BPNE	ANE
North East	Person Correlation	**AIHNE**	1,000	0.891	0.958	0.961	0.918	-0.915	0.965
	Significance			0.000	0.000	0.000	0.000	0.000	0.000
			AIHS	**SPS**	**OBG1S**	**OBG2S**	**OBG3S**	**BPS**	**ANS**
South	Person Correlation	**AIHS**	1,000	0.954	0.950	0.912	0.808	-0.922	-0.943
	Significance			0.000	0.000	0.000	0.001	0.000	0.000
			AIHSE	**SPSE**	**OBG1SE**	**OBG2SE**	**OBG3SE**	**BPSE**	**ASE**
Southeast	Person Correlation	**AIHSE**	1,000	0.847	0.925	0.915	0.848	-0.927	-0.922
	Significance			0.000	0.000	0.000	0.000	0.000	0.000

Source: DATASUS AUTHOR, 2024.

Caption: AIHCO: Authorization for hospital admission in the Central-West region. AIHN: Authorization for hospital admission in the North region. AIHNE: Authorization for hospital admission in the Northeast region. AIHS: Authorization for hospital admission in the South region. AIHSE: Authorization for hospital admission in the Southeast region. BPCO: Underweight in the Central-West region. BPN: Underweight in the North region. BPNE: Underweight in the Northeast region. BPS: Underweight in the South region. BPSE: Underweight in the Southeast region. ACO: Adequate weight in the Central-West region. AN: Adequate weight in the North region. ANE: Adequate weight in the Northeast region. AS: Adequate weight in the South region. ASE: Adequate weight in the Southeast region. SPCO: Overweight in the Central-West region. SPN: Overweight in the North region. SPNE: Overweight in the Northeast region. SPS: Overweight in the South region. SPSE: Overweight in the Southeast region. OBG1CO: Grade 1 obesity in the Central-West region. OBG1N: Grade 1 obesity in the North region. OBG1NE: Grade 1 obesity in the Northeast region. OBG1S: Grade 1 obesity in the South region. OBG1SE: Grade 1 obesity in the Southeast region. OBG2CO: Grade 2 obesity in the Central-West region. OBG2N: Grade 2 obesity in the North region. OBG2NE: Grade 2 obesity in the Northeast region. OBG2S: Grade 2 obesity in the South region. OBG2SE: Grade 2 obesity in the Southeast region. OBG3CO: Grade 3 obesity in the Central-West region. OBG3N: Grade 3 obesity in the North region. OBG3NE: Grade 3 obesity in the Northeast region. OBG3S: Grade 3 obesity in the South region. OBG3SE: Grade 3 obesity in the Southeast region.

Table 4. Correlation between the OBT variable with the different BMI classifications and intra-hospital variables by region of the country.

			OBTCO	PERMEDCO	VALMEDCO	BPCO	STEEL	SPCO	OBG1CO	OBG2CO	OBG3CO
Midwest	Person Correlation	**OBTCO**	1,000	0.027	0.780	-0.439	-0.393	0.305	0.370	0.361	0.497
	Significance			0.469	0.002	0.089	0.116	0.181	0.132	0.138	0.060
			OBTN	**PERMEDN**	**VALMEDN**	**BPN**	**AN**	**SPN**	**OBG1N**	**OBG2N**	**OBG3N**
North	Person Correlation	**OBTN**	1,000	-0.050	0.691	-0.805	-0.862	0.853	0.861	0.853	0.805
	Significance			0.441	0.009	0.001	0.000	0.000	0.000	0.000	0.001
			OBTAIN	**PERMEDNE**	**VALMEDNE**	**BPNE**	**ANE**	**SPNE**	**OBG1NE**	**OBG2NE**	**OBG3NE**
North East	Person Correlation	**OBTAIN**	1,000	0.353	0.823	-0.888	-0.909	0.870	0.910	0.902	0.850
	Significance			0.143	0.001	0.000	0.000	0.000	0.000	0.000	0.000
			OBTS	**PERMEDS**	**VALMEDS**	**BPS**	**TOTHE**	**SPS**	**OBG1S**	**OBG2S**	**OBG3S**
South	Person Correlation	**OBTS**	1,000	-0.439	0.814	-0.645	-0.667	0.522	0.627	0.685	0.824
	Significance			0.088	0.001	0.016	0.012	0.050	0.019	0.010	0.001
			OBTSE	**PERMEDSE**	**VALMEDSE**	**BPSE**	**ASE**	**SPSE**	**OBG1SE**	**OBG2SE**	**OBG3SE**
Southeast	Person Correlation	**OBTSE**	1,000	-0.642	0.873	-0.814	-0.838	0.791	0.839	0.823	0.752
	Significance			0.017	0.000	0.001	0.001	0.002	0.001	0.001	0.004

Source: DATASUS AUTHOR, 2024.
Caption:

OBTCO: Death in the Central-West region. OBTN: Death in the North region. OBTNE: Death in the Northeast region. OBTS: Death in the South region. OBTSE: Death in the Southeast region. BPCO: Underweight in the Central-West region. BPN: Underweight in the North region. BPNE: Underweight in the Northeast region. BPS: Underweight in the South region. BPSE: Underweight in the Southeast region. ACO: Adequate weight in the Central-West region. AN: Adequate weight in the Northeast region. ANE: Adequate weight in the Northeast region. AS: Adequate weight in the South region. ASE: Adequate weight in the Southeast region. SPCO: Overweight in the Central-West region. SPN: Overweight in the North region. SPNE: Overweight in the Northeast region. SPS: Overweight in the South region. SPSE: Overweight in the Southeast region. OBG1CO: Grade 1 obesity in the Central-West region. OBG1N: Grade 1 obesity in the North region. OBG1NE: Grade 1 obesity in the Northeast region. OBG1S: Grade 1 obesity in the South region. OBG1SE: Grade 1 obesity in the Southeast region. OBG2CO: Grade 2 obesity in the Central-West region. OBG2N: Grade 2 obesity in the North region. OBG2NE: Grade 2 obesity in the Northeast region.

OBG2S: Grade 2 obesity in the South region. OBG2SE: Grade 2 obesity in the Southeast region. OBG3CO: Grade 3 obesity in the Central-West region. OBG3N: Grade 3 obesity in the North region. OBG3NE: Grade 3 obesity in the Northeast region. OBG3S: Grade 3 obesity in the South region. OBG3SE: Grade 3 obesity in the Southeast region. PERMEDCO: Average days of hospital stay for Complicated diabetic foot treatment in the Central-West region. PERMEDN: Average days of hospital stay for Complicated diabetic foot treatment in the North region. PERMEDNE: Average days of hospital stay for Complicated diabetic foot treatment in the Northeast region. PERMEDS: Average days of hospital stay for Complicated diabetic foot treatment in the South region. PERMEDSE: Average days of hospital stay for Complicated diabetic foot treatment in the Southeast region. VALMEDCO: Average amount spent per hospitalization for Complicated diabetic foot treatment in the Central-West region. VALMEDN: Average amount spent per hospitalization for Complicated diabetic foot treatment in the North region. VALMEDNE: Average amount spent per hospitalization for Complicated diabetic foot treatment in the Northeast region. VALMEDS: Average amount spent per hospitalization for Complicated diabetic foot treatment in the South region. VALMEDSE: Average amount spent per hospitalization for Complicated diabetic foot treatment in the Southeast region

The OBT variable was the focus of the second correlation analysis, but unlike the AIH, it was performed not only with the BMI variables, but also with variables related to in-hospital care, as shown in Table 4.

Finally, ANOVA was performed using OBT as the dependent variable and PARMED, VALMED, BP, A, SP, OBG1, OBG2 and OBG3 as independent variables. However, this analysis did not bring statistical significance to any prediction.

DISCUSSION

The analysis of the data obtained showed that hospitalizations for Diabetic Foot have a positive correlation with a significance of at least 0.7 with overweight and the three types of obesity (grade 1, grade 2 and grade 3) in all regions, which corroborates data from the Guidelines of the Brazilian Diabetes Society, 2023, which shows that overweight, obesity, sedentary lifestyle and aging constitute the main non-genetic factors for the increased risk of developing type II Diabetes Mellitus, and although the pathogenesis of Diabetic Foot ulcers is multifactorial, DM is necessary for its development, thus, the greater the number of diabetes, the greater the chance of developing Diabetic Foot, as it is one of the most common complications of Diabetes.[15-16]

Table 1 shows an increase in hospitalized cases of diabetic foot in all regions of the country between 2011 and 2019. However, in 2020 there was a reduction in the number of treatments in four regions, with only the northern region maintaining a slight increase, while in 2021 there was a resumption of the increase in all regions, with the exception of the southern region. This can be justified by the impact of the SARS-COV-2 pandemic in 2020, where many patients stopped seeking hospital care for fear of becoming infected with the coronavirus.

Thus, the data show that in all regions the number of AIHs increased during the analyzed period, as it always presented positive and highly significant confidence intervals, with the lowest R^2 given to the Midwest with the value of 0.882. The

decrease in numbers observed in 2020 can be explained by the pandemic context already mentioned. It is worth noting that the data on the number of Hospital Admission Authorizations (AIH) for Diabetic Foot over the years and by region of the country are absolute and the present study did not take into account the population increase between the years.

Table 2 shows that, in general, from 2011 to 2018, there was an increase in the weight of the population studied in all regions of Brazil, with a decrease in the percentage of people with low weight and adequate weight, with the greatest reduction in the North region, approximately 17.5%, and the smallest in the South region with approximately 11.5%, and an increase in overweight and obesity, as in the Northeast region, where there was an increase of approximately 19% for these BMI classifications in this interval. However, when evaluating the interval from 2019 to 2021, an increase in the percentage of people with low weight is observed. This change in nutritional profile, data collected during the years 2020 and 2021, can be speculated as a reflection of the political and biosocial context during the COVID-19 pandemic, which caused an increase in food insecurity in the country and an increase in hospital underreporting.

Although it is conjectured, given this scenario, that the increase in overweight and obesity observed between 2011 and 2018 presents some correlation with the number of deaths, this expectation was not generally verified, since in the South and Central-West regions the OBT variable did not have a positive correlation with overweight. In all regions of Brazil, there was only a positive correlation between nutrition and authorization for hospital admission for complicated diabetic foot treatment.

Obesity is only one of the risk factors for death from diabetic foot. Other factors considered are: advanced age; time since diagnosis of DM, low level of education, inadequate diet, physical inactivity, inadequate metabolic control, lack of specific foot care, and high blood pressure.[17] These factors were not analyzed in this study. This study also aimed to evaluate the correlation of deaths between different variables: length of hospital stay, average amount spent per hospitalization, and nutritional classifications. However, there was no significant relationship.

FINAL CONSIDERATIONS

This study confirms that there was a significant increase in the weight of the studied population between 2011 and 2018, and an increase in the percentage of underweight individuals between 2019 and 2021, confirming the food insecurity that exists in the country. Furthermore, when investigating hospital admissions for

Diabetic Foot over the years 2011 to 2021, by region in Brazil, a positive correlation with overweight and the three types of obesity can be observed in all regions. Therefore, it is noted that adequate nutrition is important in the prevention and treatment of Diabetic Foot in patients with Diabetes Mellitus. However, many patients do not meet Brazilian nutritional recommendations and have nutritional deficiencies that can affect wound healing and, consequently, quality of life.

Furthermore, although nutritional status influences DM and consequently Diabetic Foot, it is not possible to confirm the correlation between the increase in obesity and overweight and the number of deaths in all regions. It is only possible to confirm the positive correlation between nutrition and authorization for hospital admission for complicated diabetic foot treatment. Therefore, it is important that health professionals who work with diabetic patients and/or diabetic foot emphasize the importance of adequate nutrition and provide individualized dietary guidance to improve treatment results, since maintaining a good nutritional status and adequate glycemic control is necessary to prevent the disease and its progression to amputation and/or death. Therefore, it is currently difficult to perform analyses related to diabetes due to the lack of important, updated and available data, such as the prevalence and incidence of the disease in Brazil. Thus, in the country, the correlation of Diabetic Foot with nutrition can constitute a major factor for health surveillance and prevention.

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