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Epidemiological profile and hospitalization data of patients with inflammatory bowel disease††

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ABSTRACT

Objective: This study's objective was to understand the epidemiologic profile of the patients with inflammatory bowel disease in the state of Tocantins, Brazil.
Methods: This is a descriptive study of secondary data, which was gathered by using the Informatics Department of the Brazilian Health System, and it corresponds to the cases registered from January of 2010 to December of 2017. The data of interest were those related to the total number of admissions, age range, gender, ethnicity, city of hospitalization, and type of care.
Results: There were 340 hospital admissions due to inflammatory bowel diseases in Tocantins, of which 204 (60%) were female patients and 136 (40%), male patients; the predominant age group was between 20 and 59 years old (65.88%). These hospitalizations lasted an average of 4.7 days and 98.23% of them occurred as a matter of urgency.
Conclusion: The study demonstrated that the epidemiological profile of the inflammatory bowel disease in the state of Tocantins consists of female patients, aged between 20 and 59 years, with hospitalizations lasting 4.7 days and mainly urgent, demonstrating that it is necessary to implement screening measures in order to make the diagnosis earlier, thus preventing possible complications.

† Study carried out at the Universidade Federal do Tocantins (UFT), Palmas, TO, Brazil.

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Perfil epidemiológico e caráter de internação dos pacientes portadores de doença inflamatória intestinal

Palavras-chave:
Doença de Crohn
Epidemiologia
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RESUMO

Objetivo: Conhecer o perfil epidemiológico dos pacientes portadores da doença inflamatória intestinal no estado do Tocantins.

Metodologia: Trata-se de estudo descritivo de dados secundários obtidos a partir do Sistema de Internações Hospitalares do Sistema Único de Saúde, que se compreendem entre Janeiro de 2010 e Dezembro de 2017. Os dados de interesse foram aqueles relacionados ao número total de internações, à faixa etária, sexo, raça, município de internação dos pacientes e caráter dos atendimentos.

Resultados: Houve 340 internações hospitalares em razão das doenças inflamatórias intestinais em Tocantins, das quais 204 (60%) foram pacientes femininos e 136 (40%) pacientes masculinos, e a faixa etária predominante foi entre 20 e 59 anos (65,88%). Essas internações duraram em média 4,7 dias e 98,23% delas ocorreram com caráter de urgência.

Conclusão: O estudo demonstrou que o perfil epidemiológico da doença inflamatória intestinal no Tocantins constitui-se por pacientes femininos, tendo de 20 a 59 anos, internações de 4,7 dias e predominantemente de urgência, o que torna necessário a implantação de medidas de rastreio de forma a tornar o diagnóstico mais precoce, prevenindo, então, possíveis complicações.

Introduction

Inflammatory bowel diseases (IBD) are chronic pathologies that affect the quality of life of patients,[1–4] affecting the physiological function of the intestines. The most common IBDs are Crohn's disease (CD) and nonspecific ulcerative colitis (NSUC), which account for 80%–90% of cases.[5]

IBD is associated with persistent chronic inflammation of the intestines. The inflammatory process can occur in any segment of the alimentary canal mucosa in the case of CD and is limited to the colon mucosa in NSUC.[1] Despite these known morphological aspects, their etiology and pathogenesis remain unknown; these conditions are therefore considered multifactorial and are associated with genetic, immunological, and other risk factors.[1,6]

They present a wide spectrum of symptoms and severity, both intestinal and extraintestinal. Patients often present chronic diarrhea, abdominal pain, and rectal bleeding.[4] Extraintestinal manifestations are observed in 20–30% of cases.[1] Among these, articular, dermatological, and hepatic presentations are the most common, notably arthralgia/arthritis, sclerosing cholangitis, and pyoderma.[6,7]

The diagnosis of IBD is complex, as the clinical manifestations of CD and NSUC are similar to those of several diseases[1]; clinical, laboratory, radiological, endoscopic and anatomopathological exams are required.[5] On clinical evaluation, patients present classic symptoms of abdominal pain and chronic diarrhea.[1,5,6]

Treatment of IBDs is mainly pharmacological, with anti-inflammatory and immunosuppressive agents; biological therapy is also used. In the former, aminosalicylates, corticosteroids, and immunosuppressants are usually administered. In biological therapy, anti-tumor necrosis factor (TNF) antibodies such as infliximab are used.[1] These methods aim to relieve symptoms, prolong disease remission, avoid surgical interventions, and improve the patient's quality of life.[6]

The epidemiology of these diseases indicates a higher incidence and prevalence in developed countries.[2] In the United States, the mean incidence is 7 per 100,000 people, with a prevalence of 50 per 100,000.[4,6] In South American countries, the frequency is lower, and data for the definition of an epidemiological profile are lacking.[1,3,4,6]

According to Zaltman, the lack of data in Brazil is associated with the absence of important elements for the collection of information on IBD. Among these factors are the systematic collection of information on clinical data in the main reference centers and long-term follow-up of patient cohorts.[4]

In the state of Tocantins, digestive diseases are the fourth leading cause of hospital admissions. As in several other states, epidemiological studies on IBD are lacking in Tocantins.[1,4]

Thus, further studies are needed to elucidate the epidemiological profile of IBDs in the Brazilian context. Therefore, this study aimed to describe the epidemiological profile of patients with IBD in the state of Tocantins.

Methods

This was a descriptive study of secondary data obtained from the Hospital Admissions System of the Brazilian Unified Health System and made available by the Health Surveillance Secretariat of the Ministry of Health on the electronic portal of the Informatics Department of the Brazilian Unified Health System (DATASUS). Data from January 2010 to Decem-

ber 2017 were collected; the studied population consisted of all patients hospitalized for IBD (ICD-10 K50 to K51) in the state of Tocantins. The data of interest were those related to the total number of hospitalizations, age group, sex, ethnicity, municipality of hospitalization, and type of treatment. As a public domain database was used, it was not necessary to submit the study to the Research Ethics Committee.

The state of Tocantins consists of 139 municipalities, with an estimated population of 1,555,229 inhabitants in 2018. According to the 2010 IBGE census, 49.22% of the population was female and 50.77% was male.[8] The state has 245 institutions listed in the National Register of Healthcare Facilities, of which 222 are from the Brazilian Unified Health System.[9] The state has eight health regions, which are continuous geographic areas made up of groups of bordering municipalities based on cultural, economic, and social identities, as well as communication networks and shared transport infrastructure, with the purpose of integrating the organization, planning, and execution of healthcare actions and services.[10]

From the data obtained in DATASUS, new tables and graphs were built using Microsoft® Office Excel 2016. For data analysis, the absolute frequencies of all data of interest were calculated.

Results

During the analyzed period, 340 hospitalizations due to IBDs were registered; 204 (60%) patients were female and 136 (40%) were males, respectively (Fig. 1).

Regarding the age group, incidence was observed in all ages, from 0 to 80 years, with predominance between 20 and 59 years (65.88%; Fig. 2).

Regarding ethnicity, 259 (76.18%) patients self-declared as mixed-race, followed by white (18; 5.29%), black (five; 1.47%), and Asian (3; 0.88%). It was also observed that this information was not registered for 55 (16.18%) patients.

The mean length of hospital stay for patients with IBD was 4.7 days, ranging from 3.3 to 9.4 days.

As for the nature of the consultation, 334 (98.23%) were admitted to the emergency room and only six (1.74%) were elective.

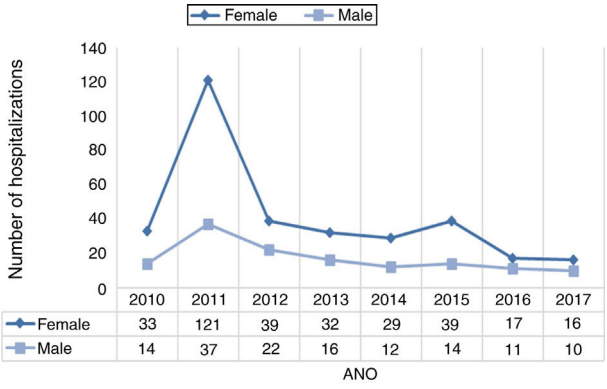

Fig. 1 – Trend chart of inflammatory bowel disease according to the number of hospitalizations and gender in the state of Tocantins, Brazil, between 2010 and 2017.
Source: Brazil, 2018.[11]

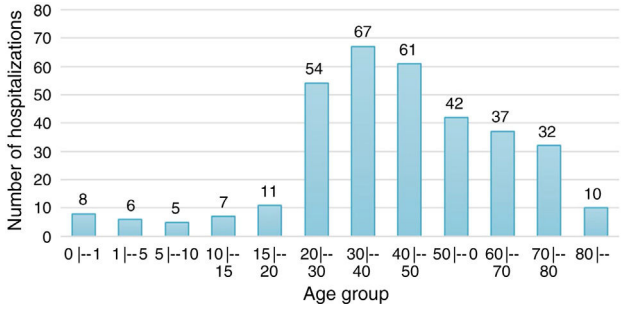

Fig. 2 – Frequency of hospitalizations for inflammatory bowel disease by age group in the state of Tocantins, Brazil, between 2010 and 2017.
Source: Brazil, 2018.[11]

The state of Tocantins has 139 municipalities; however, only 21 had data regarding hospitalizations for IBD. The main city was Dianópolis, with 110 (32.25%), followed by Araguaína (101; 29.71%), Colinas do Tocantins (23; 6.76%), Palmas (22; 6.47%), Gurupi (19; 5.59%), Porto Nacional (18; 5.29%) and Ananás (18; 5.29%), the other cities had less than six hospitalizations (Fig. 3).

Discussion

The predominance of females among individuals with IBD (60%) observed in this study is similar to national studies,[12–15] and systematic reviews, such as that by Hovde and Moun.[16] However, the data collected differ from that of other studies, such as Ekbom et al.[17] and Oliveira et al.[18]

Gasparini[15] states that this difference may be influenced by cultural characteristics, since, according to a study by the IBGE,[8] women tend to seek healthcare more (78%) than men (63.9%). However, it is not possible to draw conclusions based on this causal relationship, considering the role of several factors, such as environmental and genetic, on such a difference.[15]

The prevalence of IBD in patients between 20 and 59 years old (65.88%) is consistent with other national studies, such as those by Souza et al.,[12] Souza et al.,[13] Gasparini,[15] Oliveira et al.,[18] and Silva et al.[19]

Regarding ethnicity, the predominance of mixed-race patients in the state (76.18%) is in disagreement with other studies.[12–15] It is worth mentioning that, due to the characteristics of the Brazilian population, it is possible that there is a dissociation between physical appearance and ancestry, and it is likely that self-declaration is not adequately related to ethnic reality.[20]

It was observed that there was no information about ethnicity for 55 (16.18%) hospitalized patients. Gasparini[15] highlights that it is necessary to instruct both patients and healthcare professionals on the appropriate completion of medical records and related documents, to prevent biases regarding the epidemiological factors of IBD.

The mean length of stay observed in the present study (4.7 days) is below that shown in some other studies, 6.5 days[18] and 21.25 days.[21]

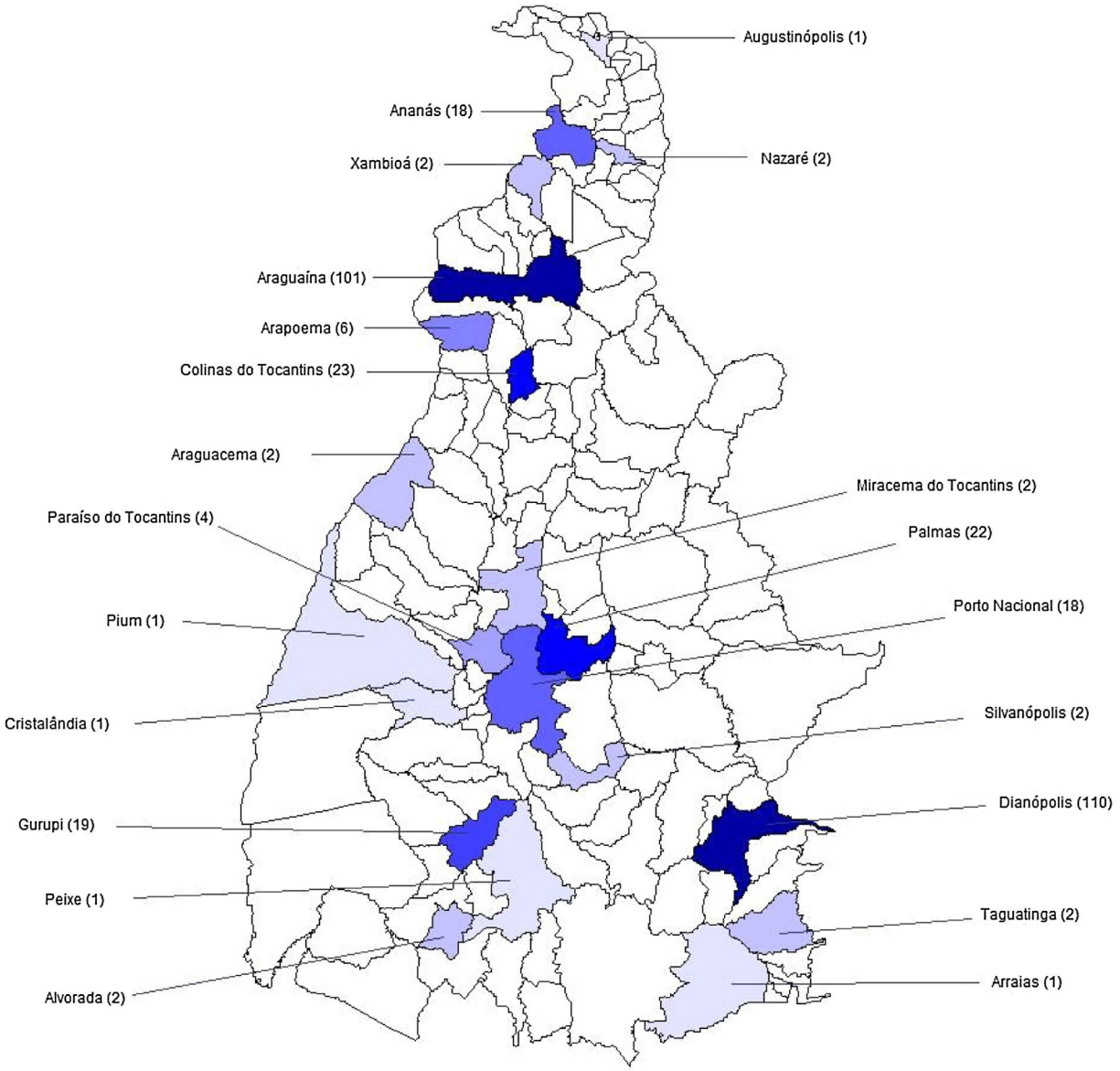

Fig. 3 – Number of hospitalizations for inflammatory bowel disease by municipalities in the state of Tocantins, Brazil, between 2010 and 2017.
Source: Brazil, 2018.[11]

As for the nature of the consultations, the predominance of urgent care is possibly linked to the fact that IBD courses with exacerbations of its clinical condition, especially diarrhea, which may be accompanied by protein-calorie malnutrition.[22] The association between malnutrition and other clinical characteristics showed a higher percentage of malnourished individuals with more severe signs and symptoms, in addition to more frequent extra- and intra-intestinal manifestations.[23]

The higher concentration in the cities of Dianópolis, Araguaína, Colinas do Tocantins, Palmas, Gurupi, and Porto Nacional is probably due to the fact that these are the main cities in their respective health regions. Ananás, despite having shown a high number of hospitalizations, is not the main city in its health region, so further studies are needed to clarify this situation.

It is also worth mentioning that Dianópolis, the tenth largest city in Tocantins,[8] had a peak in the number of hospitalizations in 2011 (81); in 2010 and in 2012 there were only 13 and 11 hospitalizations, respectively. This change further reinforced the predominance of females over males, with regard to the gender prevalence. Further studies are needed to clarify this difference.

IBD studies are difficult to carry out, considering the obstacles in obtaining epidemiological data, both in Brazil and in other Latin American countries,[12,13] which occurs mainly as a consequence of the non-mandatory notification status of this condition. Therefore, the real prevalence of IBD may be under-

estimated, since in developing countries there is an increasing trend of this morbidity.[14,24]

Conclusions

The study demonstrated that the epidemiological profile of patients with IBD in the state of Tocantins is composed mainly of females, mixed-race, aged between 20 and 59 years, with a mean hospital stay of 4.7 days, and with a higher prevalence of urgent care, which highlights the need for screening measures in order to make the diagnosis earlier, thus preventing possible complications. Given the scarcity of studies on IBD in the state, further studies are needed to better outline its epidemiological profile and its possible biopsychosocial changes over time.

Conflicts of interest

The authors declare no conflicts of interest.

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