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INFLAMMATORY DISEASE

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Assessment of quality of life in elderly patients with inflammatory bowel disease with mild activity and in clinical remission

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HIGHLIGHTS

- Elderly patients with mildly active or quiescent IBD and elderly patients without IBD presented similar global QoL scores.
- Conversely, these elderly patients with IBD had significantly lower scores in General QoL and General Health.
- Mildly active IBD negatively affected both the general health score and the physical domain of WHOQOL-BREF when compared to patients in remission.
- Elderly Patients with IBD treated with biological therapy had better QoL than those on conventional therapy.

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ABSTRACT – Background – Inflammatory bowel disease (IBD), represented by Crohn's disease (CD) and ulcerative colitis (UC), is a chronic condition that affects all age groups, predominantly in young individuals. Currently, an increase in the prevalence of IBD has been documented, in parallel with the increase in the elderly population. The scarce number of studies that better characterize the impact of IBD on Quality of Life (QoL) in the elderly motivated the present study. **Objective** – To evaluate the impact of IBD on the QoL of elderly people treated at a Tertiary IBD Center. **Methods** – Prospective cross-sectional study that included elderly patients (age ≥ 60 years) with quiescent or mildly active IBD treated at the HU-UFJF IBD Center between March 2019 and December 2022. Elderly companions without severe comorbidities who attended the consultation with the patients were included as a control group. Sociodemographic and IBD-related characteristics were recorded. QoL was assessed using previously validated questionnaires (WHOQOL-BREF and IBDQ). Patients with IBD with moderate to severe activity, history of recent or imminent hospitalization, serious or opportunistic infections in the last 6 months, previous neoplasia, dementia, and difficulty understanding/filling the questionnaires were excluded. **Results** – A total of 123 patients were included (74 with IBD and 49 in the control group), with a mean age of 67 ± 6.2 years, 52.7% with CD, and 47.3% with UC. Mild disease activity was observed in 31.1%. Both groups (IBD patients and control) were comparable based on age, sex, BMI, and the Charlson Comorbidity Index. Patients with IBD and controls had similar QoL scores in the different domains assessed by the WHOQOL-BREF. On the other hand, when evaluating the general facet of QoL, IBD patients had significantly lower scores in General QoL (3.71 ± 0.87 versus 4.02 ± 0.62 , respectively; $P=0.021$) and General Health (3.32 ± 1.05 versus 3.69 ± 0.94 , respectively;

$P=0.035$). The presence of mildly active IBD negatively impacted the general health score (2.91 ± 0.99 versus 3.47 ± 1.04 , respectively; $P=0.035$) and the physical domain of the WHOQOL-BREF (12.27 ± 2.63 versus 13.86 ± 2.61 , respectively; $P=0.019$) when compared to patients in remission. Conversely, no impact on QoL was observed with the Application of the IBDQ questionnaire regarding the type of the disease (161 ± 38.5 versus 163.1 ± 42.6 for CD and UC, respectively; $P=0.84$) or the presence of activity (152.5 ± 38.8 versus 166.4 ± 40.5 , respectively; $P=0.17$). **Conclusion** – No statistically significant differences were found between elderly patients with mildly active or quiescent IBD and elderly patients without IBD when observing global QoL scores. However, IBD negatively impacted the general facet of QoL, just as mild activity was associated with lower scores in general health and the physical domain assessed by the WHOQOL-BREF. Patients with IBD treated with biological therapy had better QoL than those on conventional therapy. Future studies are needed to choose the most appropriate tool for assessing QoL in this population.

Keywords – Quality of life; inflammatory bowel disease; elderly.

INTRODUCTION

Inflammatory bowel disease (IBD) encompasses a group of immune-mediated diseases that are characterized by a disproportionate and uncontrolled inflammatory response to environmental factors and an altered gut microbiome in genetically predisposed individuals⁽¹⁾. IBD, mainly comprising Crohn's disease (CD) and ulcerative colitis (UC), present a chronic course, often debilitating with a relapsing-remitting course that has the potential to cause structural damage to the intestine, loss of function, increased rates of hospitalizations, and morbimortality⁽²⁾. These diseases can affect people at any age but have an incidence profile that peaks between the second and fourth decades of life^(2,3).

The Global Burden of Disease Study, a systematic worldwide epidemiological study, demonstrated that IBD accounted for 3.32 million estimated cases in 1990 and 4.90 million cases in 2019, reflecting an increase of 47.4% in this period⁽⁴⁾. Although data from epidemiological studies regarding the incidence and prevalence in Brazil are scarce and heterogeneous, Kotze et al. published a systematic review of all the available data from Latin American studies. They found that when only Brazilian studies were analyzed together, we could also observe a similar trend to the worldwide scenario, with a steady increase in IBD prevalence over the last decades⁽⁵⁾. Likewise, Kappelman et al. reported in a US cohort an increase in IBD in the elderly, with 214 per 100,000 CD and 315 per 100,000 UC patients greater than 60 years⁽⁶⁾.

The aging process of the population observed in developed and developing countries has increased the elderly population. Moreover, the occurrence of a second peak for IBD diagnosis around the sixth or seventh decade is being well documented⁽⁷⁾. Currently, about 25–35% of the IBD population is over the age of 60 years⁽⁸⁾. Furthermore, elderly patients represent a significant challenge regarding the management of IBD, either because there is not enough knowledge about the disease course in this population, the presence of several comorbidities, or even the immunosenescence related to aging^(9,10). Studies focusing on elderly populations indicate the need for better comprehension of age-related physiological processes, management of multiple comorbidities, and the polypharmacy that generally accompanies geriatric patients.

The relapsing-remitting course of IBD, as well as its debilitating nature, exposes patients to a wide variety of symptoms such as chronic diarrhea, abdominal pain, anemia, or even surgical consequences (e.g., ostomy, surgical scars, intestinal resection), negatively impacting their well-being and Quality of life (QoL). The importance of targeting endoscopic mucosal healing is currently in parallel with the normalization of QoL as a treatment goal highlighted by The Selecting Therapeutic Targets in Inflammatory Bowel Disease (STRIDE-II) initiative of the International Organization for the Study of Inflammatory Bowel Diseases⁽⁹⁾.

Several structured questionnaires have been used to assess QoL in IBD patients, with the Inflammatory

Bowel Disease Questionnaire (IBDQ) being the most widely used. Therefore, assessing QoL in elderly patients can be troublesome because their definitions and perspectives of QoL can vary in this subgroup of patients. Added to this, as highlighted before, the multiple comorbidities that elderly patients are exposed to and the high incidence of depression can negatively impact their QoL⁽¹¹⁾. Assessing QoL then becomes a challenge, as we need to find an adequate and validated instrument with enough accuracy to capture all those aspects of QoL related to the aging process and differentiate them from those related to IBD features.

Some studies that used more sensitive questionnaires to separate aspects related to the physical and mental capacity of elderly patients found a dichotomy, showing that the decrease in QoL could be more related to physical than mental aspects⁽¹²⁾. Besides that, there is some heterogeneity in this subgroup of patients since two different patterns can be defined: those who developed IBD after the age of 60 (elderly-onset IBD) and those who had been dealing with the disease since a young age (adult-onset IBD). Those two presentations can have different characteristics, behaviors, and natural history^(7,13).

Given the increasing prevalence of IBD in Brazil and the gradual increase in the elderly population, awareness of QoL assessment tools is a cornerstone and has become a target for better care of IBD patients. However, to our knowledge, no study evaluating QoL in elderly Brazilian patients with IBD has been published. Therefore, the present study aims to evaluate QoL in a cohort of elderly patients with IBD in remission or mild activity.

METHODS

Study design and population

This cross-sectional study was conducted at the Center for Inflammatory Bowel Diseases of the University Hospital of the Federal University of Juiz de Fora between March 2019 and December 2022. The convenience sample consisted of IBD patients aged 60 years or older and a control group composed of elderly volunteers (≥ 60 years) with no severe comorbidities and lived in the same environment or an environment close to the patients. The diagnosis

of CD or UC was previously established by clinical, laboratory, endoscopic, imaging, and/or histopathological data, and patients should be followed in our Service for at least three months before inclusion. The exclusion criteria were moderately to severely active IBD at baseline, history of recent (within 6 months) or imminent hospitalization for any reason, serious or opportunistic infections (within the last 6 months), previous cancer (exception for non-melanoma skin cancer), underlying severe comorbidity, dementia or difficulty understanding/completing the questionnaires.

Inflammatory bowel disease treatment was categorized into conventional therapy (steroids, salicylates and immunosuppressants) and biological agents for further evaluation of its.

The present study complies with the Declaration of Helsinki and was submitted to and approved by the Research Ethics Committee (CEP) of the University Hospital - EBSERH of the Federal University of Juiz de Fora under number 3.132.561. Before being included in the study, all patients filled out the Informed Consent Form and agreed to participate.

Demographic and disease-related characteristics

At entry, after assessing the eligibility criteria, patients' medical history, gender, and comorbidities were recorded. The disease-associated variables documented were the type of the disease (CD versus UC), duration and disease extension, disease behavior according to the Montreal classification, age of diagnosis, previous intestinal surgery and current IBD therapy. The clinical indices, Harvey-Bradshaw Index (HBI) and Mayo Partial Score (MPS), were used to quantify CD and UC activity, respectively. Thus, an HBI score below five and an MPS equal to or less than one indicated remission. Mild activity was determined if patients presented with an HBI between 5–7 points or an MPS 2–4. Those who presented with higher scores in any of the indices used (HBI/MPS) were excluded because of moderate to severely active IBD.

For the Charlson Comorbidity Index calculation patients were asked about previous or current histories of comorbidities such as chronic obstructive pulmonary disease (COPD), heart failure (HF), chronic kidney failure (CKF), peripheral vascular disease,

and myocardial infarction during the clinical interview. The score and estimated survival were calculated using an online calculator (<https://www.mdcalc.com/calc/3917/charlson-comorbidity-index-cci>).

Quality of life assessment

To assess QoL, the WHOQOL-BREF (World Health Organization Quality of Life Brief Version), a short and validated version of WHOQOL-100, was applied for both groups (patients and controls). Briefly, the WHOQOL-BREF consists of 26 questions whose answers can range from 1 to 5, following the Likert scale, with a higher score meaning a better QoL. The first two questions refer to a general facet of QoL; the remaining 24 questions are divided into four domains: physical health, psychological health, social relationships, and environment. Moreover, a specific instrument most frequently used to capture disease-specific aspects of QoL in patients with IBD was also applied to this specific group. The IBDQ contains 32 questions that comprise four domains: intestinal symptoms, systemic symptoms, and social and emotional aspects. The results from each domain are then added together, with scores ranging from 32 to 224, with higher scores implying better QoL. Five categories were used to classify patient's QoL regarding IBDQ score: very low (32–59 points); low (60–104 points); moderate (105–139 points); good (140–179 points) and very good (180–224 points). Both questionnaires were previously translated and validated into Portuguese^(14,15). The questionnaire application occurred shortly after the medical interview by previously trained researchers.

Statistical analysis

Continuous variables were expressed as median and range or as mean \pm standard deviation (SD) when normally distributed. Categorical variables were described as frequencies and percentages. Descriptive statistics and frequency distribution were generated for qualitative variables, central tendency measures (mean), and metric variables' dispersion SD. For variable metrics, paired *t*-tests for independent samples were used and whenever it was necessary the correspondence analysis was performed. After evaluating the descriptive statistics, we began comparing the findings of the control

group with those of the IBD group based on the WHOQOL-BREF questionnaire.

The analyses for the IBDQ questionnaire compared the group of patients with IBD in remission and activity and among the type of the disease (UC versus CD). We then analyzed the IBDQ domains. The statistical analysis was done using the SPSS 22.0 program (SPSS, Chicago, IL, USA). For comparison, the level of statistical significance was set at $P < 0.05$, and all reported *P*-values are 2-tailed.

RESULTS

We prospectively evaluated 131 patients, and after applying the exclusion criteria, 123 patients were included in the study, as shown in FIGURE 1. The mean age was 67.02 (60–88 years), and 56.9% ($n=70$) were female. The mean Charlson comorbidity index was 3.56 ± 1.56 (range: 1–9). Both groups (IBD and control) were well-matched based on sociodemographic characteristics and Charlson comorbidity index, as presented in TABLE 1. Patients with IBD and controls had similar QoL in all four domains evaluated by the general QoL questionnaire WHOQOL-BREF. Conversely, when the General facet of QoL, composed of the two first questions, was examined separately, a significant impairment in QoL of IBD patients could be noticed (TABLE 1). The first question of WHOQOL-BREF refers to an individual's overall perception of QoL, and the second one asks about their overall perception of their health.

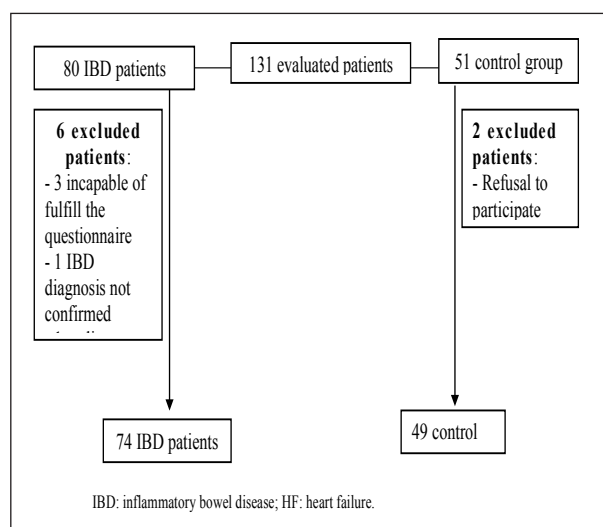


FIGURE 1. Study inclusion flowchart.

TABLE 1. Sociodemographic baseline characteristics of the studied population.

| | Total n=123 | Control n= 49 | IBD n=74 | P value |
|--------------------------------------|------------------|------------------|------------------|--------------|
| Age (years) [†] | 67.02±6.23 | 67.1±5.78 | 66.95±6.55 | 0.96 |
| Female gender n (%) | 70 (56.9) | 28 (57.1) | 42 (56.8) | 0.86 |
| BMI (kg/m2) [†] | 26.84±5.26 | 27.6±5.62 | 26.38±5.01 | 0.23 |
| CCI [†] | 3.56±1.56 | 3.84±1.75 | 3.38±1.40 | 0.11 |
| WHOQOL-BREF - Q1^{†*} | 3.83±0.79 | 4.02±0.62 | 3.71±0.87 | 0.021 |
| WHOQOL-BREF- Q2^{†*} | 3.46±1.02 | 3.69±0.94 | 3.32±1.05 | 0.035 |
| Physical health [†] | 13.47±2.93 | 13.64±3.27 | 13.36±2.70 | 0.613 |
| Phycological [†] | 14.51±2.77 | 14.70±3.01 | 14.38±2.60 | 0.540 |
| Social relationship [†] | 14.36±3.18 | 14.13±3.30 | 14.52±3.12 | 0.513 |
| Enviromental [†] | 13.98±2.24 | 14.11±2.29 | 13.90±2.22 | 0.614 |

IBD: inflammatory bowel disease; BMI: body mass index; CCI: Charlson Comorbidity index; WHOQOL-BREF: World Health Organization Quality of Life BREF version; IBDQ: Inflammatory Bowel Disease Questionnaire; [†]mean±SD; ^{*}WHOQOL-BREF- Q1 (Overall QoL); ^{*}WHOQOL-BREF-Q2 (General Health).

Regarding IBD features, there was a slight predominance of CD (52.7%), with ileocolonic disease (50%) and stricturing behavior (51.3%) being the most common. In the UC group, pancolitis was reported in 41.2% of patients, followed by proctitis (35.5%) and left-sided colitis (23.5%; FIGURE 2). The mean age of diagnosis was 51.2 years (range: 27-79), with most of them adult-onset IBD (diagnosis before 60 years old), with only 28.2% representing elderly-onset IBD. Patients with elderly-onset IBD presented more commonly with inflammatory behavior when

compared to adult-onset IBD (inflammatory 72.7% versus 18.5%; stricturing 27.3% versus 63%; penetrating 0% versus 18.5%; $P=0.005$).

Sociodemographic characteristics, disease duration, and Charlson Comorbidity index were similar in CD and UC patients. Mildly active disease was documented in 31.1% of patients and mainly in UC patients (44.1% UC versus 16.3% CD, respectively; $P=0.038$). No impact on QoL regarding the disease type was observed (TABLE 2). There was no difference between patients with IBD in activity or remission regarding

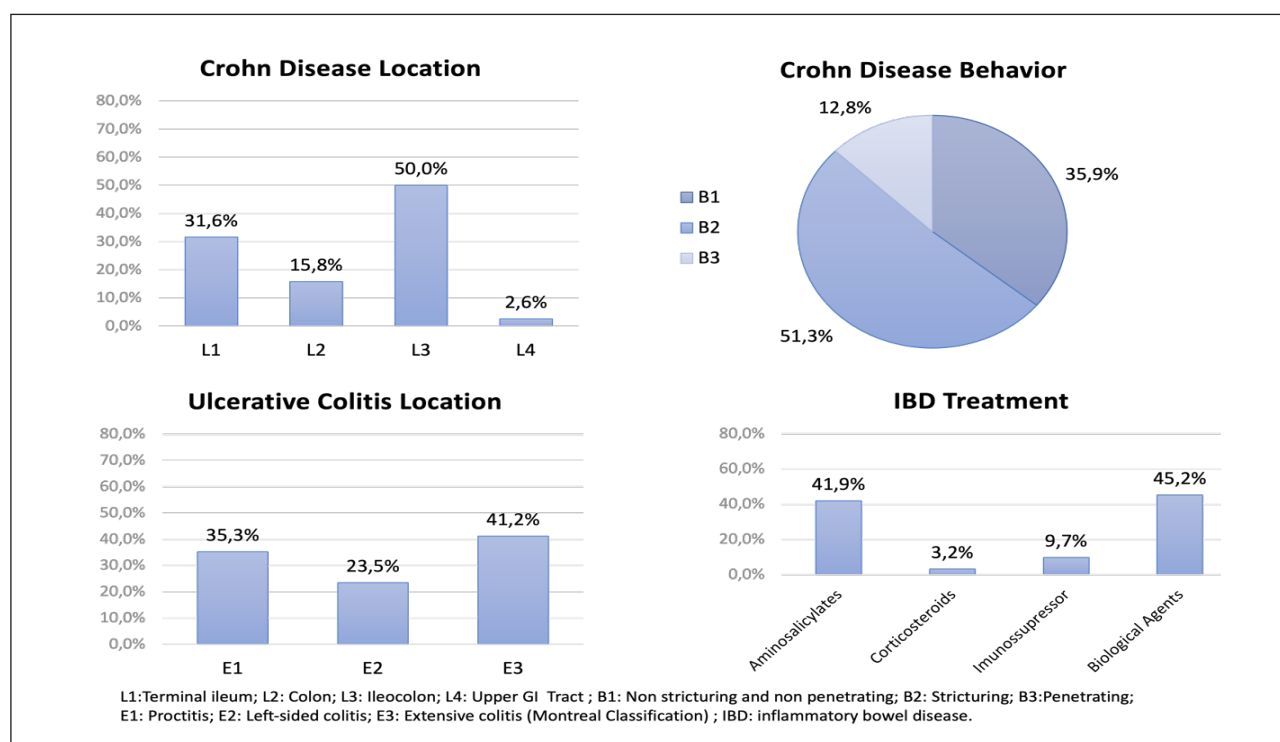


FIGURE 2. Patient's characteristics with inflammatory bowel disease.

TABLE 2. Sociodemographic characteristics and quality of life scores in patients with inflammatory bowel disease.

| | Total n=123 | Crohn's disease n=49 | Ulcerative colitis n=34 | P value |
|---------------------------------------|------------------|----------------------|-------------------------|--------------|
| Age (years) [†] | 66.95±6.55 | 66.46±5.81 | 67.49±7.33 | 0.505 |
| Female gender n (%) | 70 (56.9) | 18 (36.7) | 24 (70.5) | 0.381 |
| BMI (kg/m ²) [†] | 26.37±5.01 | 27.42±5.72 | 25.22±3.85 | 0.064 |
| Disease duration (years) [†] | 15.86±11.82 | 15.4±1.75 | 16.3±2.19 | 0.740 |
| Disease activity n (%) | 23 (31.1) | 8 (16.3) | 15 (44.1) | 0.038 |
| Abdominal surgery n (%) | 21 (28.4) | 20 (40.8) | 1 (2.9) | 0.000 |
| Conventional therapy | 34 (54.8) | 10 (33.3%) | 24 (75%) | 0.005 |
| Biologic therapy | 28 (45.2) | 20 (66.7%) | 8 (25%) | |
| CCI [†] | 3.38±1.40 | 3.49±1.35 | 3.26±1.46 | 0.485 |
| Overall QoL (Q1) [†] | 3.70±0.87 | 3.74±0.78 | 3.66±0.96 | 0.673 |
| General health (Q2) [†] | 3.30±1.05 | 3.38±0.93 | 3.20±1.18 | 0.457 |
| Physical health [†] | 13.47±2.93 | 13.32±2.57 | 13.42±2.88 | 0.873 |
| Psychological [†] | 14.51±2.77 | 14.36±2.64 | 14.41±2.59 | 0.945 |
| Social relationship [†] | 14.36±3.18 | 14.49±2.70 | 14.55±3.57 | 0.939 |
| Environmental [†] | 13.98±2.24 | 13.73±1.88 | 14.09±2.56 | 0.495 |
| IBDQ total score [†] | 162.11±40.26 | 161.2±38.6 | 163.1±42.6 | 0.840 |
| Low | 9 (12.2) | 4 (14) | 5 (10.3) | 0.852 |
| Moderate | 11 (14.8) | 7 (17.9) | 4 (11.4) | |
| Good | 25 (33.8) | 13 (33.3) | 12 (34.3) | |
| Very Good | 29 (39.2) | 15 (38.5) | 14 (40.0) | |

CCI: Charlson Comorbidity index; WHOQOL-BREF: World Health Organization Quality of Life Brief version; IBDQ: Inflammatory bowel disease questionnaire; [†]: mean±SD; WHOQOL-BREF- Q1 (Overall QoL); WHOQOL-BREF-Q2 (General Health).

the sociodemographic characteristics, disease duration, and Charlson Comorbidity index (TABLE 3). Conversely, mildly active disease negatively impacted the General health (2.91±0.99 versus 3.47±1.04, respectively; $P=0.035$), and the WHOQOL-BREF physical domain (12.27±2.63 versus 13.86±2.61; $P=0.019$) when compared to patients in remission. Regarding the therapy, an association between the treatment option (conventional versus biological therapy) and IBDQ ($P=0.007$) was observed. Correspondence analysis (ANACOR) was carried out to determine which categories are associated. At a significance level of 5% there was an association between Conventional Therapy and Low IBDQ and use of biological agents with Moderate IBDQ (TABLE 4). No difference was found between the therapy and WHOQOL ($P>0.005$).

DISCUSSION

The management of IBD is still a significant challenge due to the heterogeneity and complexity of the disease's phenotypes. Currently, the world is facing a burden in both IBD prevalence and the elderly

population, including newly diagnosed IBD patients after the age of 60⁽⁴⁾. Improving quality of life has become a target to be sought in treating IBD patients, changing diagnostic and therapeutic proposals⁽⁹⁾. The data regarding QoL in elderly IBD patients are scarce and divergent. To the best of our knowledge, this is the first Brazilian study that evaluates QoL in elderly IBD patients assessed by two different questionnaires (i.e., one general and other disease-specific questionnaire of QoL) as recommended by some authors to capture better the different aspects that can impact QoL⁽¹⁶⁻¹⁸⁾. Patients with IBD and controls had similar QoL in all four domains evaluated by the general QoL questionnaire. Conversely, the negative impact on QoL of elderly IBD patients could be noticed when the general facet of QoL, represented by overall QoL and General Health, were analyzed separately by the WHOQOL-BREF (TABLE 1). Furthermore, even mild disease activity also negatively impacted both general health and the physical domain of the WHOQOL-BREF (TABLE 3), supporting the importance of achieving complete remission of IBD to improve QoL.

TABLE 3. Patient's characteristics with inflammatory bowel disease according to disease activity at baseline.

| | Total IBD n=74 | Active IBD n=23 | Quiescent IBD n=51 | P value |
|---|----------------|-----------------|--------------------|---------|
| Age (years) [†] | 66.95±6.55 | 65.13±6.51 | 67.76±6.46 | 0.110 |
| Female gender n (%) | 42 (60) | 14 (33.3) | 28 (66.7) | 0.630 |
| BMI (kg/m ²) [†] | 26.37±5.01 | 27.95±6.4 | 25.7±4.1 | 0.151 |
| Disease duration [†] | 15.86±11.82 | 15.04±11.32 | 16.2±11.9 | 0.691 |
| CCI [†] | 3.38±1.40 | 3.74±1.3 | 3.22±1.3 | 0.138 |
| Overall QOL (Q1) ^{†*} | 3.38±1.40 | 3.61±0.98 | 3.75±0.82 | 0.537 |
| General health (Q2)^{†*} | 13.89±2.14 | 2.91±0.99 | 3.47±1.04 | 0.035 |
| Physical health [†] | 13.47±2.93 | 12.27±2.63 | 13.86±2.61 | 0.019 |
| Psychological [†] | 14.51±2.77 | 14.43±2.42 | 14.36±2.70 | 0.920 |
| Social relationship [†] | 14.36±3.18 | 14.66±3.38 | 14.45±3.03 | 0.792 |
| Environmental [†] | 13.98±2.24 | 14.04±2.21 | 13.83±2.24 | 0.717 |
| IBDQ total score [†] | 166.4±40.5 | 152.57±38.81 | 166.41±40.53 | 0.173 |
| Low | 9 (12.2) | 3 (13.0) | 6 (10.0) | 0.203 |
| Moderate | 11 (14.8) | 5 (21.7) | 6 (12.0) | |
| Good | 25 (33.8) | 10 (43.6) | 15 (30) | |
| Very Good | 29 (39.2) | 5 (21.7) | 24 (48) | |

IBD: inflammatory bowel disease; BMI: body mass index; CCI: Charlson Comorbidity index; WHOQOL-BREF: World Health Organization Quality of Life Brief version; IBDQ: Inflammatory bowel disease questionnaire; [†]mean ± SD; ^{*}WHOQOL-BREF- Q1 (Overall QoL); [†]WHOQOL-BREF-Q2 (General Health)

TABLE 4. Relationship between Inflammatory Bowel Disease Questionnaire and the therapy choice.

| | Low n (%) | Moderate n (%) | Good n (%) | Very good n (%) | P |
|----------------------|--------------|-------------------|---------------|--------------------|-------|
| Conventional Therapy | 7 (20.6) | 2 (5.9) | 7 (20.6) | 18 (52.9) | 0.007 |
| Biological Agents | 1 (3.6) | 7 (25) | 12 (42.9) | 8 (28.6) | |

The burden on the elderly population raises a discussion about their needs and the necessity of a better knowledge of the aging process and its physiopathology, as well as a great demand for the management of age-related health conditions. To promote healthy aging, it is cumbersome to look at the elderly integrally, considering all the variables of geriatric care with evaluation and intervention in their QoL. This could be even more challenging due to the comorbidities that accompany the aging process, the association with depressive symptoms, and socioeconomic conditions^(8,11,12). Understanding and measuring how comorbidities can truly affect an individual's life in older age makes the finding of a consistent and quantifiable tool of measurement of comorbidities critical, and several comorbid illness scales have been proven suitable for identifying subgroups of more vulnerable elderly patients. The CCI

score is a well-validated score derived from internal medicine patients that estimates one-year mortality^(19,20,21). We compared the CCI scores from IBD patients to the control group and did not find a significant difference, nor did the sociodemographic characteristics, which make both groups well-matched. Thus, in the present study, given the low CCI score presented by IBD patients and controls, it is very likely that underlying comorbid diseases had a low impact on the assessment of QoL in this cohort.

The WHOQOL-BREF is a general questionnaire for the assessment of QoL previously validated by Fleck et al. that demonstrated good validity and reliability in Brazilian population⁽¹⁴⁾ and in the elderly population⁽²¹⁾. Although there was no significant difference in the four domains analyzed by the WHOQOL-BREF (physical health, psychological health, social relationships, and environment), both aspects of the general facet were compromised in IBD patients. The general facet of WHOQOL-BREF is composed of the two first questions of a general nature that, despite being part of the global score, stratify the population in terms of their perceptions regarding QoL and general health. The first question assesses how the patients rate their Quality of life (labeled "Overall QoL"), and the second evaluates their general health perception/satisfaction. It is well

known that the longer the elderly live, the greater the number of chronic conditions, the presence of frailty, cognition impairment, and polypharmacy, factors that directly can cause greater functional disability⁽²²⁾. While several studies had previously demonstrated a lower QoL in female IBD patients and pointed out the possible effect of psychological factors associated with this finding, we could not observe this^(23,24). Koseki and colleagues evaluated the possible factors that could impact QoL in 45 IBD patients and did not find any relationship between female gender and worse QoL⁽²⁵⁾ what agreed with our finding and previous studies^(26,27).

Currently, about 25–35% of the IBD population is over the age of 60 years, and two different subgroups with possible distinct behaviors are recognized: elderly-onset IBD (15%) and adult-onset IBD. In our cohort, only 30.6 %⁽²¹⁾ were diagnosed after 60 years, and the mean disease duration was 15.86±11.82 years. Regarding IBD in the elderly population, several studies have evaluated the demographic characteristics of this subgroup of patients and pointed out some particularities, such as the disease location (e.g., CD predominance in the colon and left-sided colitis in UC), surgery requirement, and hospitalization rates⁽⁸⁾. Although we did not find any difference regarding the disease extension or activity, we could notice some features previously described in the literature. In the present cohort, patients with elderly-onset IBD presented predominantly with inflammatory behavior as opposed to the structuring predominance in adult-onset IBD patients (inflammatory 72.7% versus 18.5% and stricturing 63% versus 27.3; respectively; $P=0.005$). The predominance of stricturing behavior could explain the highest rate of abdominal surgery observed in CD patients, and mostly in adult-onset IBD patients (38% versus 9.1%; $P=0.013$). Previous studies have also pointed out the more frequent occurrence of surgery in CD patients, even in elderly-onset IBD⁽²⁸⁾.

The QoL evaluated by the general WHOQOL-BREF or IBDQ did not show any impact on QoL on their distinct domains related to the type of IBD (CD versus UC), as previously documented by Cohen D et al.⁽²⁹⁾ Conversely, treatment option was associated with QoL evaluated by IBDQ, and as formerly described, the use of biological agents positively impacted

QoL, as opposed to negative influence of conventional therapy on QoL.

In our cohort, mild disease activity was observed in 31.1%, and this was more frequent in UC (65.2% versus 34.8%; $P=0.038$), which could explain the risk of IBD-related hospitalization being documented more frequently in UC than CD patients, mostly in elderly IBD patients^(22,30). Nevertheless, it is noteworthy to consider the difficulties in differentiating if this could be explained by a more aggressive course of the disease in this subgroup of patients exposed to a chronic state of low-grade inflammation secondary to an increase of pro-inflammatory cytokines or to undertreatment due to the afraid of potential side effects of the therapeutic options^(7,31–33).

Several studies have highlighted the impact of disease activity in QoL in IBD patients^(25,34,35). In a Brazilian study, Parra and collaborators evaluated 407 IBD patients in a multicenter cross-sectional study. They observed that moderate to severe IBD activity, mostly among CD patients, can negatively impact the QoL of these patients⁽³⁶⁾. Although we found no impairment in QoL of patients with mildly active disease when the IBDQ questionnaire was applied, we noticed that those with mild disease activity had impaired general health and lower scores in the physical domain of WHOQOL-BREF. We could hypothesize that the absence of impairment in the domains evaluated by the IBDQ could be explained by the fact that we restricted the disease activity to only those who presented with mild activity. This fact could have mitigated the impact of intestinal inflammation and its accompanying symptoms on quality of life when assessed by the IBDQ, mostly in the intestinal symptoms domains that are frequently documented as compromised in these patients⁽¹²⁾. It is notable to point out the data demonstrated by Figueira et al., that highlighted that elderly people tend to perceive their QoL more positively, which can explain our results. Is well known the importance of an individual's perception of the impact of the disease on their QoL⁽³⁷⁾. The discrepancy between mental and physical health in elderly people has previously been documented, and this might be explained by a more resilient way of dealing with problems and the development of coping strategies⁽³⁸⁾. Conversely, the physical impact observed on the Physical domains could reflect fac-

tors such as restricted mobility, frailty, depression, or even a lower perceived physical QoL⁽³⁹⁾.

Our study has some limitations. One drawback is that it was based on a single tertiary referral center where typically there are patients with more severe diseases with a greater propensity of complications. This is a relevant factor because it could lead to the occurrence of bias, resulting in a higher impairment of QoL in the individuals studied by us than in the overall population of elderly patients with IBD. On the other hand, the fact that patients are followed in a tertiary IBD center, many of them receiving advanced and highly effective therapies to control their disease, makes them more likely to experience an improvement in their quality of life caused by the multidisciplinary management of your condition. In addition, QoL was assessed at a single point of time that could not reflect the longitudinal impact of the disease. Also, the absence of systematic evaluation of mental disorders such as anxiety and depression could also impact our results since it has been frequently reported in IBD patients with a substantial impact on their QoL⁽⁴⁰⁾. Furthermore, the analysis of IBD activity or remission considered only clinical aspects, leaving out laboratory and endoscopic aspects. We do not have an ideal verification instrument for comparing elderly patients with IBD and those without these diseases since the WHOQOL is not specific for typical signs and symptoms of digestive system disorders, and the IBDQ is only validated for patients with DIIs. Finally, the fact that both questionnaires are limited to only the patient's last two weeks can lead to biases, as patients often present interspersed episodes of disease activity and remission, spontaneous or induced by IBD-directed therapy, during their illness.

Long-term prospective studies involving a broader population of elderly patients with IBD are needed to expand knowledge regarding the interrelationship between IBD in the elderly, disease activity/remission and quality of life. In addition, future studies it would be important to evaluate the relationship between biochemical and endoscopic activity of

IBD, psychological comorbidity and quality of life in elderly patients with IBD. Ultimately, comprehensive care of the elderly patients with IBD even in remission should include routine assessment of QoL and in a more comprehensive way, possible factors impairing QoL to ensure appropriate interventions.

CONCLUSION

This first Brazilian cross-sectional study that evaluated QoL in elderly IBD patients by two different questionnaires (general and disease-specific) found that patients with mildly active or in remission IBD have a meaningful impact on the overall QoL and general health compared to matched-elderly controls, with no differences being observed between patients with CD and UC. Sociodemographic and IBD-related characteristics, except disease activity, did not impact patients' QoL. We observed that even mild disease activity had a negative impact on the general health and the physical domain of QoL when evaluated by WHOQOL-BREF. Patients with IBD using biologics agents had better quality of life than those on conventional Therapy.

Further studies are needed to better understand all the aspects involved in the QoL of elderly people, especially in IBD patients, to focus on specific goals to improve their management, targeting a better QoL.

Authors' contribution

Fraga JBP, Oliveira AF, Ribeiro TCR, Schmidt LPC, Silva GT and Chebli JMF contributed equally to the conception and/or design of this work, data acquisition, and analysis, the first draft, critical comments, and final approval of the version to be submitted.

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Fraga JBP, Oliveira AF, Ribeiro TCR Schmidt LPC, Silva GT, Chebli JMF. Avaliação da qualidade de vida em pacientes idosos com doença inflamatória intestinal em atividade leve ou remissão. *Arq Gastroenterol.* 2024;61:e24017.

RESUMO – Contexto – Doença inflamatória intestinal (DII), representada pela doença de Crohn (DC) e retocolite ulcerativa (RCU), é uma condição crônica e progressiva que afeta todas as faixas etárias, embora predomine em indivíduos jovens. Atualmente, tem sido documentado um aumento na prevalência de DII, de forma paralela ao aumento da população idosa. O escasso número de estudos que melhor caracterizem o impacto da DII na qualidade de vida (QV) em idosos motivou o presente estudo. **Objetivo** – Avaliar o impacto da DII na QV de idosos atendidos em um centro terciário de DII. **Métodos** – Estudo prospectivo transversal que incluiu pacientes idosos (idade ≥ 60 anos) com DII, atendidos pelo Centro de DII do HU-UFJF, entre março de 2019 a dezembro de 2022, e que apresentavam remissão clínica ou atividade leve de doença. Acompanhantes idosos sem comorbidades graves que compareceram à consulta com os pacientes foram incluídos como grupo controle. Foram registradas características sociodemográficas e relativas a DII. A QV foi avaliada por meio de questionários previamente validados (WHOQOL-BREF e IBDQ). Pacientes com DII com atividade moderada a grave, história de hospitalização recente ou iminente, infecções graves ou oportunistas nos últimos 6 meses, neoplasia prévia, demência, dificuldade de compreensão/ preenchimento dos questionários foram excluídos. **Resultados** – Foram incluídos 123 pacientes (74 com DII e 49 no grupo controle), com idade média de $67 \pm 6,2$ anos, sendo 52,7% com DC e 47,3% com RCU. Atividade leve da doença foi observada em 31,1%. Ambos os grupos (pacientes com DII e controle) foram comparáveis com base na idade, sexo, IMC e Índice de Comorbidade de Charlson. Pacientes com DII e controle apresentaram escores de QV similares nos diferentes domínios avaliados pelo WHOQOL-BREF. Por outro lado, quando avaliada a faceta geral de QV, pacientes com DII apresentaram escores significativamente menores na QV geral ($3,71 \pm 0,87$ versus $4,02 \pm 0,62$, respectivamente; $P=0,021$) e na saúde geral ($3,32 \pm 1,05$ versus $3,69 \pm 0,94$, respectivamente; $P=0,035$). A presença de atividade leve impactou negativamente nos escores de saúde geral e de domínio físico do WHOQOL-BREF quando comparados com pacientes em remissão ($2,91 \pm 0,99$ versus $3,47 \pm 1,04$, respectivamente; $P=0,035$ e $12,27 \pm 2,63$ versus $13,86 \pm 2,61$, respectivamente; $P=0,019$). Não foi observado impacto na QV com a aplicação do questionário IBDQ no que se refere ao tipo de DII ($161 \pm 38,5$ versus $163,1 \pm 42,6$ para DC e RCU, respectivamente; $P=0,84$) ou a presença de atividade ($152,5 \pm 38,8$ versus $166,4 \pm 40,5$, respectivamente; $P=0,17$). **Conclusão** – Não foram encontradas diferenças estatisticamente significativas entre pacientes idosos com DII em atividade leve ou quiescente e pacientes idosos sem DII quando observados os escores globais de QV. Porém, a DII impactou negativamente a faceta geral de QV, assim como a presença de atividade leve esteve associada a menores escores na saúde geral e no domínio físico avaliado pelo WHOQOL-BREF. Pacientes com DII tratados com terapia biológica apresentaram melhor QV do que aqueles em terapia convencional. Estudos futuros são necessários para escolha de ferramenta mais adequada para avaliação de QV nessa população.

Palavras-chave – Qualidade de vida; doenças inflamatórias intestinais; idosos.

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