

Nutritional status, quality of life and life habits of women with irritable bowel syndrome: a case-control study

Ana Paula Monteiro de MENDONÇA¹, Luciana Miyuki YAMASHITA¹, Esther Dantas SILVA¹, Isabela SOLAR¹, Larissa Ariel Oliveira SANTOS¹ and Ana Carolina Junqueira VASQUES^{1,2}

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ABSTRACT – Background – Irritable bowel syndrome is a functional and chronic gastrointestinal disorder that may cause abdominal pain and altered bowel habits, affecting the nutritional status and quality of life of its carriers. Its prevalence is high, affecting about 10% to 15% of the general population in developed countries, being more prevalent in women than in men in the proportion 2:1. **Objective** – The aim of our study was to compare the profile of body adiposity, life habits, and the quality of life of women with irritable bowel syndrome with a healthy control group. **Methods** – Case-control study on 70 women, 34 with irritable bowel syndrome and 36 healthy. We applied the “Irritable Bowel Syndrome Quality of Life Questionnaire” to assess quality of life. Body adiposity was assessed from body mass index, waist circumference, and waist-to-hip ratio. We investigated the self-reporting of gastrointestinal symptoms with food deemed as problematic for carriers of irritable bowel syndrome and the presence of typical comorbidities. Assessment of life habits included: practice of physical activities, alcoholism, smoking, daytime sleepiness, and exclusion of foods from the feeding routine. For statistical analysis we used the IBM SPSS program, with a significance level at 5%. **Results** – There was higher volume of central and general adiposity in the case group compared with the control group ($P<0.05$). Cases presented a higher chance of developing IBS-related comorbidities ($P<0.05$). About of 80% of patients with irritable bowel syndrome have excluded some food from the diet ($P<0.01$) and the total amount of troublesome foods varied from 7 to 21 ($P<0.01$). The case group featured worse quality of life compared with the control ($P<0.05$). **Conclusion** – Compared to the control group, women with irritable bowel syndrome showed greater body adiposity, higher frequency of comorbidities, greater restriction on the consumption of problematic foods and worse quality of life.

HEADINGS – Irritable bowel syndrome. Adiposity. Life style. Quality of life.

INTRODUCTION

Irritable bowel syndrome (IBS) is a functional, chronic, and often disabling gastrointestinal disorder, characterized by change in bowel habits including diarrhea, constipation, pain and/or discomfort, flatulence and distension^(1,2). Its prevalence is high, affecting about 10% to 15% of the general population in developed countries, being more prevalent in women than in men in the proportion 2:1^(2,3).

In Western countries, IBS is associated with worse quality of life (QOL), economic impact on work absenteeism, and productivity lost, resulting in an average annual spending of billions of dollars on medical assistance^(1,2). Patients with IBS feature significant impact on health-related QOL, particularly concerning energy/fatigue, functional limitations due to physical health problems, bodily pain, and overall perception of health⁽⁴⁾. Both gastrointestinal symptoms and psychiatric comorbidities (anxiety and depression) independently contribute to the decreased QOL of these patients⁽⁵⁾. The patients' fear of gastrointestinal symptoms having adverse consequences is also a predictive of impaired QOL and increased distress⁽⁶⁾.

Obesity is a possible comorbidity of IBS, since intestinal motility, subclinical inflammation, diet, and gut microbiota may be interrelated^(7,8). Over the last decade, some studies aimed to find associations between body adiposity, gastrointestinal symptoms, and IBS⁽⁹⁻¹⁷⁾. Nagasako et al.⁽⁹⁾ identified high frequencies of excess weight in patients with IBS. For bariatric patients with IBS, an improvement of IBS symptoms was demonstrated with weight reduction after the bariatric surgery intervention⁽¹³⁾. Authors of a recent study on morbid-obesity patients submitted to moderate caloric restriction identified improve in gastrointestinal symptoms of IBS after weight loss⁽¹⁴⁾. However, other studies did not find higher risk of IBS in obese subjects and this association is still inconclusive⁽¹⁵⁻¹⁸⁾.

In addition, the consumption of some foods can exacerbate gastrointestinal symptoms of IBS. Main foods regarded as troublesome are sources of carbohydrates that are highly fermentable and of low absorption in the intestine, which include fructose in excess of glucose, lactose, oligosaccharides, and polyols, the so-called FODMAPs acronym^(19,20). Other troublesome foods for IBS carriers may be spicy foods, greasy foods, sources of biogenic

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¹ Universidade de Campinas (UNICAMP), Faculdade de Ciências Aplicadas, Campinas, SP, Brasil. ² Universidade de Campinas (UNICAMP), Gastrocentro, Laboratório de Investigação em Metabolismo e Diabetes (LIMED), Campinas, SP, Brasil.

Corresponding author: Ana Paula Monteiro de Mendonça. E-mail: ana.pmdm@hotmail.com

amines, lectins, and preservatives as well as foods that can trigger the endogenous secretion of histamine⁽²¹⁾. However, the self-reported frequencies for each of these groups in IBS is not well understood.

Few authors have investigated the role of life habits in the development and symptoms of IBS. In a case-control study, the pattern of alcoholic beverages consumption did not differ between patients with IBS and those from the healthy control group, and mild and moderate drinking were poorly associated with gastrointestinal symptoms⁽²²⁾. On the other hand, the excessive consumption of alcoholic beverages been strongly associated with gastrointestinal symptoms in patients with IBS when compared with controls⁽²²⁾. Regarding the use of tobacco, in a recent systematic review carried out by Sirri et al.⁽²³⁾, the authors could not state a significant statistical association with IBS. Different impairments among studies and the lack of prospective studies hindered the generalization and comparability between them⁽²³⁾. Regarding sleep and physical exercise, was demonstrated that sedentary individuals are 3.5 times more likely to suffer from IBS symptoms than those who were physically active⁽²⁴⁾; in parallel, those with good quality of sleep were 0.13 times less likely to be affected with IBS symptoms than those with sleep impairment⁽²⁴⁾.

Due to the great challenge that IBS became to health professionals and the remaining gaps in relation to its clinical-behavioral handling, our objective was to investigate associations between quality of life, body adiposity, self-reporting of gastrointestinal symptoms concerning troublesome foods, and life habits of patients with IBS, compared with a group of healthy individuals.

METHODS

Ethical considerations

Our study was approved by the Research Ethics Committee of the University of Campinas (protocol no. CAAE – 64341316.0.0000.5404). An Informed Consent Form was individually presented and read to all research volunteers. All evaluations were carried out only upon the volunteers' acceptance and signature.

We have acquired the informed consent after indicate all possible physical and psychological damages on subjects and/or their guardians before the experiment is conducted, in accordance with the Declaration of Helsinki.

Study design and casuistry

Case-control study design, with two convenience samples, being one sample composed of 34 women with IBS, namely the case group, and other sample with 36 healthy women, namely the control group. It was evaluated women aging between 20 and 59 years. Such sample was chosen because of the greater prevalence of IBS in women compared with men⁽²⁵⁾.

The case group was composed of patients with IBS who have been selected from the Specialized Outpatient Clinic (*Ambulatório Médico de Especialidades – AME*) of Limeira, in the state of São Paulo, Brazil; and from the Gastroenterology Outpatient Clinic (*Ambulatório de Gastroenterologia*) of *Hospital de Clínicas – UNICAMP*, located in the city of Campinas, state of São Paulo, Brazil.

The control group was composed of individuals from the community of the cities of Limeira and Campinas – São Paulo, Brazil. Healthy volunteers were evaluated in the Laboratory of Nutritional Assessment (LANUT) of the School of Applied Sciences – UNICAMP, and in the Laboratory of Investigation on Metabolism and Diabetes (LIMED), located on the campus of University of Campinas.

Inclusion criteria for the control group were women, aged between 18 and 59 years, stable weight over the last six months (change of up to 5% in body weight), body mass index (BMI) <30 kg/m², without changes in diet for the last six months. Exclusion criteria for the control group were: pregnancy, patients with other diseases that affect the nutritional status and dietary intake (diabetes, dyslipidemias, cancer, AIDS, diseases of the gastrointestinal tract such as intestinal malformation, short bowel syndrome, irritable bowel syndrome, celiac disease, lactose intolerance, inflammatory bowel disease, and Crohn's disease), and neurological disorders affecting cognition and ability to answer the questions.

Inclusion criteria for the case group were women, aging between 18 and 59 years, confirmed diagnosis of IBS according to the ROME III criteria, and not being under nutritional monitoring. Exclusion criteria for the case group were pregnancy, diseases that affect the nutritional status, and dietary intake, and neurological status.

Anamnesis

It was collected information on personal medical history and family history concerning gastrointestinal-related diseases such as fibromyalgia, chronic fatigue syndrome, temporomandibular joint dysfunctions, chronic pelvic pain, ulcer dyspepsia, and use of laxatives and antidiarrheal medications.

Life habits

The level of physical activity was assessed by the International Physical Activity Questionnaire (IPAQ)⁽²⁶⁾. We applied a questionnaire on smoking, which has been classified as follows: smoker (smoked ≥100 cigarettes during life and currently smokes), former smoker (smoked ≥100 cigarettes and no longer smokes), and non-smoker (smoked <100 cigarettes the whole life)⁽²⁷⁾. The consumption of alcoholic beverages was assessed in drinks as follows: less than 1 drink per month; 1 to 4 drinks per month; 5 to 7 drinks per month; and more than seven drinks per month⁽²⁷⁾. Sleep was assessed based on the Epworth Sleepiness Scale, translated and validated to the Portuguese version⁽²⁸⁾. We also questioned participants as for the presence of gastrointestinal symptoms in 42 foods deemed troublesome for IBS carriers⁽²⁹⁾.

Evaluation of quality of life

The "Irritable Bowel Syndrome Quality of Life Questionnaire" (IBS-QOL) was applied to evaluate quality of life using the translated version into Portuguese language. The IBS-QOL is an instrument composed of 34 items developed and validated for measuring health-related quality of life of patients with IBS. Its assessment comprises eight domains: dysphoria, interference with activity, body image, health concerns, food prevention, social reaction, sexuality, and relationships. The score of responses ranges from 1 to 5, resulting in an overall score of QOL and in each domain. Values close to 100 represent a better quality of life, while results close to 0 are related to the worst quality of life of patients with IBS⁽³⁰⁾.

Anthropometric assessment

Evaluation of weight occurred using a weighting scale (Welmy® W200) of 200-kg maximum capacity. Volunteers were standing, barefoot, with arms extended to the side of their bodies, and wearing light clothes for a proper measurement. Height was measured by a wall mount stadiometer. Body mass index was calculated and classified according to the criteria of the World Health Organization⁽³¹⁾.

For measurement of waist circumference, patients were standing naked at the site of measurement, which occurred at the umbilical level. It was used a non-extensible measuring tape, and the reading was performed at the end of expiration. For the hip circumference, tape circled hip in the region of greater perimeter between the waist and the thigh⁽³²⁾. We calculated the waist-to-hip ratio.

Statistical analysis

For statistical analysis we used the IBM SPSS program version 21.0. Average and standard deviation were used for describing parametric data, whereas medians and interquartile range were used for describing nonparametric data. Categorical data were presented in percentage values. We used the Kolmogorov-Smirnov test to evaluate the normality of the distribution of the studied variables. We used Student's *t*-test and Mann-Whitney test for comparing the two independent groups according to the normality of variables. Chi-square test was used to investigate the presence of associations between categorical variables. We calculated odds ratio for presence of diseases between cases and controls. The adopted significance level as a basis for decision was less than 5% ($P < 0.05$).

RESULTS

Age and body adiposity

In TABLE 1 we can observe that the average age in both groups are within the same age group – middle-aged adults. There was significant difference in waist circumference ($P=0.043$) and hip circumference ($P=0.043$), evidencing greater metabolic diseases risk in the case group compared with the control group. However, when analyzing waist-to-hip ratio, there was no significant difference ($P=0.423$) between the groups. Since waist circumference and hip circumference are proportionately higher in the case group, there was no significant statistical difference for waist-to-hip ratio compared with controls. When analyzing BMI ($P=0.005$), we can observe overweight in the case group while in the control group we observe eutrophy.

TABLE 1. Comparison of age and profile of body adiposity for controls and cases.

Variables	Research group		P value
	Controls	Cases	
Age (years)	40±9	46±12	0.026 ^a
IBS diagnosis time (years)	–	6±5	–
BMI (kg/m ²)	24.7±2.8	28.4±6.7	0.005 ^a
Waist circumference (cm)	85.4±8.7	92.1±16.6	0.043 ^a
Hip circumference (cm)	100.9±9.4	106.1±11.5	0.043 ^a
Waist-to-hip ratio	0.84±0.07	0.86±0.1	0.423 ^a

Values are presented as mean ± SD (range). ^aStudent's *t*-test. IBS: irritable bowel syndrome; BMI: body mass index.

Associated comorbidities and use of medicines

The case group showed the highest frequency of comorbidities associated with IBS when compared with the control group; $P < 0.05$ (TABLE 2). In the odds ratio analysis it was identified greater chance for the development of these diseases in the case group compared with the control group. There was no significant difference in the frequency of ulcer dyspepsia ($P=0.47$) and use of laxatives among groups ($P=0.06$). Nevertheless, the cases presented a higher use of antidiarrheals compared with the control group ($P=0.008$).

TABLE 2. Frequency of presence of self-reported diseases and use of medicines for controls and cases.

Variables	Research group		P value	Odds ratio
	Controls n (%)	Cases n (%)		
Fibromyalgia	1 (2.8)	13 (38.2)	0.001 ^a	21.6 (2.6–177.7)
Chronic fatigue syndrome	1 (2.8)	13 (38.2)	0.001 ^a	21.6 (2.6–177.7)
Temporomandibular joint dysfunctions	5 (13.9)	19 (55.9)	0.001 ^a	7.8 (2.4–25.1)
Chronic pelvic pain	2 (5.6)	20 (58.8)	0.001 ^a	24.2 (4.9–118.0)
Ulcer dyspepsia	0 (0.0)	2 (5.9)	0.140 ^a	0.5 (0.4–0.6)
Use of laxatives	2 (5.6)	7 (20.6)	0.060 ^a	4.4 (0.8–22.9)
Use of antidiarrheals	0 (0.0)	6 (17.6)	0.008 ^a	0.4 (0.3–0.6)

Values are presented as n (%) or odds ratio (range). ^aChi-square test.

Life habits

Variables related to life habits are presented in TABLE 3. There was no statistically significant association between smoking ($P=0.189$), daytime sleepiness ($P=0.314$) and physical activity ($P=0.82$) with IBS. The frequency of the consumption of alcoholic beverages was lower in cases compared with controls ($P=0.011$).

TABLE 3. Comparison of smoking, consumption of alcoholic beverages, sleepiness scale, and physical activity for controls and cases.

Variables	Research group		P value	
	Controls n (%)	Cases n (%)		
Smoking	Non-smoker	31 (86.9)	27 (79.4)	0.189 ^a
	Former smoker	5 (13.9)	4 (11.8)	
	Smoker	0 (0.0)	3 (8.8)	
Consumption of alcoholic beverages	< 1 drink per month	17 (47.2)	28 (82.4)	0.011 ^a
	1 to 4 drinks per month	13 (36.1)	5 (14.7)	
	5 to 7 drinks per month	5 (13.9)	0 (0.0)	
	> 7 drinks per month	1 (2.8)	1 (2.9)	
Daytime sleepiness		6±5	7±5	0.314 ^b
Physical activity	Low	2 (5.6)	0 (0.0)	0.820 ^a
	Moderate	34 (94.4)	34 (100.0)	
	High	0 (0.0)	0 (0.0)	

Values are presented as n (%) or mean ± SD (range). ^aChi-square test. ^bStudent's *t*-test.

Troublesome foods

In TABLE 4 we show the frequency of self-reporting of 42 foods deemed troublesome causing gastrointestinal aggravations in case and control groups. Thirty-three (78.5%) foods mentioned presented more reports of worsening regarding gastrointestinal symptoms for IBS patients compared with controls ($P < 0.05$). There was significant difference in the average of total amount of troublesome foods ($P < 0.01$) and in the frequency of exclusion of foods ($P < 0.01$) between both groups. About 80% of patients with IBS excluded some food from the diet and the total amount of troublesome foods varied from 7 to 21 for those carriers of IBS.

TABLE 4. Comparison of troublesome foods for controls and cases.

Foods	Research group		P value
	Controls n (%)	Cases n (%)	
Apple	1 (2.8)	8 (23.5)	0.010 ^a
Pear	1 (2.8)	6 (17.6)	0.038 ^a
Peach	0 (0.0)	5 (14.7)	0.017 ^a
Mango	0 (0.0)	13 (38.2)	<0.01 ^a
Cherry	0 (0.0)	0 (0.0)	–
Nectarine	0 (0.0)	1 (2.9)	0.300 ^a
Watermelon	3 (8.3)	12 (35.2)	0.006 ^a
Honey	0 (0.0)	1 (2.9)	0.300 ^a
Natural juice	2 (5.6)	9 (26.5)	0.016 ^a
Artichoke	0 (0.0)	0 (0.0)	–
Beet	0 (0.0)	6 (17.6)	0.008 ^a
Broccoli	3 (8.3)	14 (41.2)	0.001 ^a
Cabbage	8 (22.2)	21 (61.8)	0.001 ^a
Okra	1 (2.8)	6 (17.6)	0.038 ^a
Garlic	1 (2.8)	6 (17.6)	0.038 ^a
Onion	0 (0.0)	9 (26.5)	0.001 ^a
Cauliflower	4 (11.1)	11 (32.4)	0.030 ^a
Industrial tomato sauce	7 (19.4)	17 (50.0)	0.007 ^a
Pea	0 (0.0)	4 (11.8)	0.034 ^a
Chickpeas	4 (11.1)	8 (23.5)	0.168 ^a
Lentils	1 (2.8)	5 (14.7)	0.075 ^a
Beans	12 (33.3)	26 (76.5)	<0.01 ^a
Milk	9 (25.0)	28 (82.4)	<0.01 ^a
Ice cream	3 (8.3)	19 (55.9)	<0.01 ^a
Yogurt	5 (13.9)	18 (52.9)	<0.01 ^a
Condensed milk	0 (0.0)	19 (52.9)	<0.01 ^a
Fresh cheeses	1 (2.8)	20 (58.8)	<0.01 ^a
Wheat- or rye-based foods	5 (13.9)	19 (55.9)	<0.01 ^a
White bread	7 (19.4)	14 (41.2)	0.047 ^a
Whole wheat bread	2 (5.6)	6 (17.6)	0.112 ^a
Pasta	2 (5.6)	13 (38.2)	0.001 ^a
Rice	1 (2.8)	8 (23.5)	0.01 ^a
Chocolate	2 (5.6)	19 (55.9)	<0.01 ^a
Fried foods	6 (16.7)	24 (70.6)	<0.01 ^a
Pizza	3 (8.3)	19 (55.9)	<0.01 ^a
Pies and pastries	1 (2.8)	18 (52.9)	<0.01 ^a
Coffee	1 (2.8)	13 (38.2)	<0.01 ^a
Alcoholic beverage	3 (8.3)	7 (20.6)	0.143 ^a
Beef	4 (11.1)	15 (44.1)	0.002 ^a
Pork	1 (2.8)	12 (35.3)	<0.01 ^a
Chicken	0 (0.0)	5 (14.7)	0.017 ^a
Fish	0 (0.0)	2 (5.9)	0.140 ^a
Total amount of troublesome foods	3±3	14±7	<0.01 ^b
Food exclusion from the diet	25.0	79.4	<0.01 ^a

Values are presented as % or mean ± SD (range). ^aChi-square test. ^bStudent's *t*-test.

Quality of life

Quality of life was worse in case group than in the control group. There was worse quality of life for the domains dysphoria, interference with activity, body image, health concerns, food prevention, social reaction, sexuality, relationships ($P<0.01$), and in the overall quality of life ($P<0.01$) for carriers of IBS, compared with the control group (TABLE 5).

TABLE 5. Comparison of overall quality of life and of each subdomain of the questionnaire of quality of life for IBS carriers, in groups and controls.

Domains	Research group		P value ^a
	Controls	Cases	
Dysphoria	81.6±23.7	67.0±25.2	<0.01
Interference with activity	71.3±29.9	47.2±24.3	<0.01
Body image	70.9±29.9	50.0±25.2	<0.01
Health concerns	66.6±32.0	45.1±25.7	<0.01
Food prevention	67.1±31.3	44.8±28.0	<0.01
Social reaction	83.7±41.0	74.8±56.5	<0.01
Sexuality	81.2±24.4	64.3±33.7	<0.01
Relationships	88.0±21.6	77.2±26.9	0.001
General score of quality of life	76.4±24.1	58.7±21.7	<0.01

Values are presented as mean ± SD (range). ^aMann-Whitney test.

DISCUSSION

In our study we investigated the profile of body adiposity, life habits, self-reporting of troublesome foods, and the quality of life of women with IBS in comparison with a healthy control group. The main findings showed that IBS patients featured more general, abdominal, and gluteofemoral adiposity; higher frequency of comorbidities and use of anti-diarrheals; less consumption of alcoholic beverages; higher frequency of self-reporting of troublesome foods and food exclusion from the diet; and worse quality of life when compared with controls.

We found positive association between IBS and increased volume of android fat, according to waist circumference, and gynoid, according to hip circumference, and general fat according to BMI. In literature there are studies with controversial results concerning the association of BMI with gastrointestinal symptoms^(8-12,14,15,17,33,34). In prospective studies, Aasbrenn M et al.⁽¹⁴⁾ and Sadik R⁽³⁵⁾ demonstrated that visceral adiposity and waist circumference are associated with a significant increase in the risk of IBS, in addition to the association between increased severity of IBS symptoms and increase in BMI. A diet poor in fiber, and rich in saturated fat and fermentable carbohydrates may contribute to IBS symptoms in obese individuals⁽⁸⁾. Moreover, high BMI is related to increased colon transit and the consequent increase in gastrointestinal symptoms. In patients with overweight, colon and rectosigmoid transit were faster compared with eutrophic patients, and symptoms of pain/discomfort and swelling are also associated with abnormalities of the colon transit in obese patients with IBS⁽³⁵⁾. On the other hand, a study conducted by Van Oijen et al.⁽³⁶⁾ with 1023 individuals reported that BMI alone does not predict the occurrence of gastrointestinal disorders and symptoms such as abdominal pain, diarrhea, and constipation. Authors of a recent study on a large sample of patients with IBS

and control individuals demonstrated that obesity is as much often found in IBS as in the general population⁽³⁷⁾. The fact the control group has a BMI <30 kg/m² as inclusion criterion may have favored the findings of higher adiposity in case individuals, since the population of Brazilian adult women features an obesity prevalence of 18.7%⁽³⁸⁾.

In our study, we found a statistically significant difference in the presence of comorbidities associated with IBS. IBS is commonly manifested with other chronic painful disorders, such as dyspepsia, fibromyalgia, chronic fatigue syndrome, and temporomandibular joint dysfunctions^(25,39). A systematic-review study conducted by Whitehead et al.⁽⁴⁰⁾ found association of IBS with other non-gastrointestinal disorders, such as fibromyalgia (49%), chronic fatigue syndrome (51%), temporomandibular joint dysfunction (64%), and chronic pelvic pain (50%), suggesting that each disorder is the manifestation of varied combinations of physiological and psychological factors that interact. The use of antidiarrheals for those carriers of IBS was significantly higher compared with healthy individuals. An alternative as a second-line treatment for gastrointestinal symptoms of IBS is using laxatives and antidiarrheals⁽²⁵⁾. The use of laxatives can promote constipation relief with improvement in quality of life, being well tolerated in adults and children, and it may contribute to change the consistency and shape of feces^(41,42).

Among the analyzed parameters regarding life habits, consumption of alcoholic beverages showed significant difference between cases and controls. Patients with IBS have intolerance to several alcoholic beverages, and generally have low consumption of such due to aggravations to gastrointestinal symptoms such as abdominal pain and diarrhea caused by the change of intestinal permeability and motility^(7,22). Advice on healthy eating and lifestyle are recommended as first-line approach in the dietary handling of IBS, and the standard recommendation is to decrease the consumption of alcoholic beverages because of its association with gastrointestinal symptoms in IBS patients⁽⁴³⁾.

Most foods deemed troublesome in literature⁽²⁹⁾ and investigated in our study were reported as triggers of gastrointestinal symptoms in IBS carriers when compared with the healthy control group. Food intolerance is a frequent problem with significant consequences for individuals with IBS. Many patients with IBS associate eating some foods (such as dairy products, wheat-based products, spicy and fried foods, fruits and vegetables) with the onset and development of IBS symptoms, and about 62% of individuals have diet restrictions or exclusion^(44,45). These foods are rich in FODMAPs and IBS individuals are often intolerable to these carbohydrates^(2,45). According Mullin et al.⁽²⁾, individuals who manifest adverse reactions to foods present worse quality of life and cases of anxiety or depression associated with IBS. Diets with low levels of FODMAPs, with different proportions of proteins, fats, and carbohydrates, can improve symptoms in patients by decreasing patterns of abdominal pain and bloating, and improve quality of life in more than half of patients with IBS^(2,45-47).

In our study we noted worse overall quality of life in all studied domains in IBS patients compared with healthy individuals, being food prevention and health concerns the most affected subdomains

in patients with the syndrome. IBS causes reduction of quality of life with the same degree of commitment as diabetes, congestive heart failure, kidney failure, and liver cirrhosis⁽⁴⁸⁾. The QOL of patients with IBS was influenced by extraintestinal symptoms, such as sexuality, mood, and anxiety, in addition to the decrease in QOL concerning energy/fatigue, limitations to perform their daily activities at work, pain, overall perception of health, inability to follow an unrestricted diet, and worsening in relationships, aggravating the functional status and well-being of patients^(4,49,50). The fear of gastrointestinal aggravations is also a predictive of impairment of QOL, increased anxiety, and social isolation^(5,6). A clinically significant change in patients with IBS is seen from the therapeutic gain of ≥ 14 points in the IBS-QOL⁽⁵⁾.

Certainly, there are limitations in our study. We conducted it in a secondary/tertiary healthcare scenario, which hinders the generalization of findings to the overall IBS population. As aforementioned, the fact the control group has a BMI <30 kg/m² may have favored the findings of higher adiposity in case individuals. Finally, the final sample size was small, which made separate analyses with each IBS phenotype impossible.

Therefore, in our case-control study conducted on adult women, IBS was associated with body adiposity, chronic painful disorders, food restriction, lower consumption of alcoholic beverages, and worst quality of life compared with healthy individuals, thus suggesting a demand of multidisciplinary health care towards this population. Confirmation of these data in other population extracts would assist in the comprehensive understanding of the clinical nutritional profile of these individuals, and may support interventions and handling of IBS.

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Authors' contribution

Conceptualization: all authors. Methodology: Yamashita LM, Solar I, Santos LAO, Vasques ACJ. Formal analysis: Mendonça APM, Vasques ACJ. Funding acquisition: Vasques ACJ. Project administration: Vasques ACJ. Visualization: Mendonça APM, Yamashita LM, Vasques ACJ. Writing – original draft: Mendonça APM. Writing – review and editing: Yamashita LM, Vasques ACJ. Approval of final manuscript: all authors.

Orcid

Ana Paula Monteiro de Mendonça: 0000-0001-5218-3791.

Luciana Miyuki Yamashita: 0000-0002-6233-1142.

Esther Dantas Silva: 0000-0001-6323-8743.

Isabela Solar: 0000-0003-3500-1567.

Larissa Ariel Oliveira Santos: 0000-0002-3663-1942.

Ana Carolina Junqueira Vasques: 0000-0001-9222-1107.

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RESUMO – Contexto – A síndrome do intestino irritável é uma desordem gastrointestinal crônica e funcional que pode causar dor abdominal e alteração do hábito intestinal, afetando o estado nutricional e a qualidade de vida. Sua prevalência é alta, acomete cerca de 10% a 15% da população geral em países desenvolvidos, sendo mais prevalente em mulheres do que em homens na proporção 2:1. **Objetivo** – O objetivo deste estudo foi comparar o perfil de adiposidade corporal, os hábitos de vida e a qualidade de vida de indivíduos portadores da síndrome do intestino irritável com um grupo controle saudável. **Métodos** – Estudo caso-controle com 70 mulheres, 34 com a síndrome do intestino irritável e 36 saudáveis. Foi aplicado o *Irritable Bowel Syndrome Quality of Life Questionnaire* para avaliação da qualidade de vida. A adiposidade corporal foi avaliada a partir do índice de massa corporal, circunferência da cintura e relação cintura-quadril. Foi investigado o auto-relato de sintomas gastrointestinais de alimentos considerados problemáticos para portadores da síndrome do intestino irritável e a presença de comorbidades típicas. A análise do estilo de vida incluiu a prática de atividade física, alcoolismo, tabagismo, sonolência diurna e exclusão de alimentos. Para análise estatística foi utilizado o programa IBM SPSS, com o nível de significância de 5%. **Resultados** – Houve maior acúmulo de adiposidade central e periférica no grupo caso em comparação ao grupo controle ($P<0,05$). Os casos apresentaram maior chance de desenvolver comorbidades associadas à síndrome do intestino irritável ($P<0,05$). Cerca de 80% dos pacientes com a síndrome do intestino irritável excluíram algum alimento da dieta ($P<0,01$) e o total de alimentos problemáticos pode variar de 7 a 21 alimentos ($P<0,01$). Grupo caso apresentou pior qualidade de vida para o escore geral e para todos os domínios avaliados ($P<0,05$). **Conclusão** – Em comparação aos controles, as mulheres portadoras da síndrome do intestino irritável apresentaram maior adiposidade corporal, maior frequência de comorbidades, maior restrição ao consumo de alimentos considerados problemáticos e pior qualidade de vida.

DESCRITORES – Síndrome do intestino irritável. Adiposidade. Estilo de vida. Qualidade de vida.

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