GEORGIAN MEDICAL NEWS

ISSN 1512-0112

NO 12 (345) Декабрь 2023

ТБИЛИСИ - NEW YORK

ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

Monthly Georgia-US joint scientific journal published both in electronic and paper formats of the Agency of Medical Information of the Georgian Association of Business Press. Published since 1994. Distributed in NIS, EU and USA.

GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

GEORGIAN MEDICAL NEWS
No 12 (345) 2023

Содержание:

GEORGIAN MEDICAL NEWS
No 12 (345) 2023

MEDITERRANEAN DIET AND ITS IMPACT ON THE ILLNESS CHARACTERISTIC OF YOUTH WITH IRRITABLE BOWEL CONDITION

Geetika M. Patel[1], Nayana Borah[2], Bhupendra Kumar[3], Ritika Rai[4], V. K. Singh[5], Chandana Maji[6].

[1]*Associate Professor, Department of Community Medicine, Parul University, PO Limda, Tal. Waghodia, District Vadodara, Gujarat, India.*

[2]*Assistant Professor, Department of Life Sciences, School of Sciences, JAIN (Deemed-to-be University), Karnataka, India.*

[3]*Assistant Professor, School of Pharmacy & Research, Dev Bhoomi Uttarakhand University, Dehradun, India.*

[4]*Assistant Professor, Department of Allied Healthcare and Sciences, Vivekananda Global University, Jaipur, India.*

[5]*Professor, Department of General Medicine, TMMC&RC, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, India.*

[6]*Assistant Professor, Department of Pharmacy, Noida Institute of Engineering and Technology (Pharmacy Institute), 19 Knowledge Park 2 Greater Noida, Uttar Pradesh, India.*

Abstract.

Aim of the study: Irritable Bowel Disorder (IBD) is a prevalent digestive illness that frequently affects young people and drastically decreases the Quality of Life (QoL). Adults with IBD indications may find relief from their symptoms through nutritional changes like the Mediterranean-style diet. Concerning the seriousness of symptoms, QoL, and additional pertinent results in young people with IBD, this investigation seeks to determine the impact of the Mediterranean-style diet.

Materials and Methods: 200 individuals with IBD who met the Rome-IV criterion and were between the ages of 13 and 19 were enrolled in the present research. A Mediterranean-style diet was provided to the Study Group (SG), which consisted of 100 individuals, while the Control Group (CG), which consisted of 100 patients, followed the usual diet. Various laboratory and clinical characteristics were also assessed at the beginning and end of the study, in addition to IBD values.

Result: The Mediterranean-style diet has been demonstrated to be effective and tolerated well in kids and teenagers with IBD . The IBD -SSS (from 148± 42.3 to 224 ±71) IBD -QoL (from 76.7 ±8.1 to 61.3± 9.8), and cumulative IBD rating (from 29.3 ±11.7 to 32.6 ±12.1) all showed notable increases in individuals who followed well to this diet. The CG, in comparison, did not show any significant enhancements in these factors. This indicates that a Mediterranean-style diet might provide therapeutic advantages for IBD individuals, especially those who keep adherent to it, concerning symptom severity and QoL.

Conclusion: The Mediterranean-style diet proved to be both secure and associated with notable improvements in IBD rates in young and adolescents with IBD.

Key words. Irritable bowel disorder (IBD), Mediterranean-style diet, quality of life (QoL), symptom severity.

Introduction.

Diet tends to have a major role in the etiology of IBD. Nutrients can modulate aberrant processes in the intestines by influencing Gastrointestinal Infection (GI) sensitivity, barrier function, motility, and the intestines bacteria. Furthermore, it was found that a minimum of two-thirds of adult IBD patients and a quarter of children with Functional Gastrointestinal Disorders (FGIDs) believe their Digestive problems are caused by foods, controlling one's diet a significant element of IBD care [1]. IBD is a severe functioning GI illness that affects individuals, the healthcare system, and the community a lot of money. This condition affects 10% to 15% of the US population and 10.9% of Iranians. Previous research has found that IBD is more common in women compared to males [2].

The Mediterranean diet (MD) adapts Greek cultural eating trends. The MD diet includes more olive oil, nuts, veggies, beans, whole grain foods, fruits, a small amount of dairy products, eggs, seafood, and chicken, and a reduced amount of artificial desserts and red meat. A further significant component of an MD is a small quantity of red wine, which includes polyphenols such as a substance named a recognized antioxidant [3].

Psychological abnormalities, particularly anxiety, are prevalent in patients with severe gastrointestinal disorders, such as IBD. In Sweden, 45% had anxiety and 26% had depression. Visceral sensitivity and weariness were more common among those experiencing psychological discomfort [4]. Certain variables that promote widespread inflammation may have a role in the occurrence and worsening of IBD symptoms. Nutritional elements, among some, are particularly essential owing to their inescapable global access to all persons. Dietary variables that stimulate the inflammatory process may be implicated in the pathogenesis of IBD [5]. MD diet maintains gut bacteria diversity, improves GI tract performance, alleviates stomach discomfort in IBD patients, and improves adherence levels [6]. Clinical studies show that a diet rich in fiber, low fermentable oligosaccharides, probiotics, di-, monosaccharide, and polyols (FODMAP) has positive medical effects in youngsters, but data is limited [7]. Although certain meals may aggravate the signs of IBD, a few may bring healing. Certain nutrition techniques are being studied in research to develop efficient dietary managerial methods for IBD [8].

The study [9] determined Diet plays a crucial role in treating IBD, as it affects gut microbes and cell types, with reduced intestinal hormonal cells being the true cause of symptoms. The study [10] examined the food patterns linked to IBD, indications, and intestine microbiome variations in IBD patients. Despite the fact the study differs, that appears to be because of dietary influences. Due to this, a lot of IBD sufferers may avoid particular meals.

The paper [11] proposed the link between IBD, aging, and malnutrition, focusing on Mediterranean diets and avoiding Bp nutrition for optimal patient benefit. The study [12] shows that 50% of people with IBD had postoperative exacerbations of signs within 90 minutes of ingesting, with a dietary allergy being as frequent as 70%.3 In particular, digestible oligo-, di-,

and monosaccharides and polyols (FODMAPs) were identified as IBD causes since they eventually contribute to the enhanced formation of gases due to nutrient decomposition. The study [13] investigates the possible advantages of authentic fluid extract of Chios aromatic in the treatment of IBD. They predicted that Mastic from Chios might help with IBD symptoms and general level of living. 55 IBD patients (44 12 years old, 74.5 percent female) had been randomly allotted to one of four teams: one for low-dose maquis (n = 12, LDMG), one for low-dose control (n = 12, LDCG), one for high-dose maquis, (n = 14. HDMG), and one for high-dose control group (n = 13, HDCG) for this three-month selected regulates research. The study [14] analyzed the immediate and long-term effectiveness, dietary sufficiency, and willingness of patients of an LFD. Patients' compliance and capacity to identify "trigger" Dietary items have been analyzed. 73 Clients with IBD were given a low-fat diet (T0), and 68 began the reprise stage within two months (T1). After that time (T2), 59 individuals had been recommended to start an adaptive low FODMAP diet and 40 patients were examined after 24-month monitoring (T3). The study [15] addressed the relationship between vitamin D levels and indications of IBD in Lebanonese people found that high levels of vitamin D were associated with symptoms such as pain, constipation, and diarrhea.

The purpose of this research is to analyze the impact of illness characteristics on Irritable Bowel Disorder in the Mediterranean Diet among young people.

Materials and Methods.

This study is intended to assess the toleration, protection, and potential benefits of the MD in kids and teens with IBD patients. Every patient submitted a written agreement or approval after knowing about the study's design, aims, and rights. The research enrolled 200 kids and teenagers aged 13 to 19 years old with IBD identified using Rome IV criteria [16]. Assigned the patients were divided into two groups of 100 each. The study group was given to Group I (FFQs Score ≥ 9 points), while the control group was given to Group II. Simple randomization was used to divide the participants into groups. Due to the necessity for family and patient instruction on the MD, the study wasn't blind.

Inclusion criteria.

According to ROME IV criteria, patients between the ages of 13 and 19 are diagnosed with young people irritable bowel syndrome.

Exclusion criteria.

Latest modifications in IBD treatment, gastroenteritis, surgical or radiation treatment history, celiac illness, being overweight or underweight based on the centile curves, chronic conditions like kidney damage or insulin resistance, and patients who don't follow the nutritional norms are all considered criteria for exclusion.

Study Intervention.

The MD was the only therapy given to participants in group I within the study's six-month duration in addition to their usual care. Every visit included one-on-one instruction and guidance from a nutritionist with experience in the MD for the patients (and their caretakers). A three-day eating record is filled out by patients and their families before every visit to ensure adherence to the diet. Throughout the study time, the research gastroenterologist, research pediatrician, and I kept close tabs on patients as a part of the study team to answer any queries and offer problem-solving advice.

Each person had an extensive medical checkup, a full record review, and anthropometric tests, including Weight, Height, and Body Mass Index (BMI). The IBD -SSS questionnaire, which measures the extent of IBD symptoms, was completed by each individual with IBD. Continuous Rating Scale (CRS) is used to collect information regarding five categories that comprise the IBD -SSS diagnosis (severity, frequency of stomach pain, bloating, bowel movement satisfaction, and quality of life). Every component was graded on a scale of 0 to 100. A score of less than 0.75 implies that the patient was recovering. The moderate, severe, and mild border scores are 0.75 to 0.175, 0.175 to 300, and greater than 310, respectively. A score reduction of 52 or more was deemed a noteworthy increase. In addition, the patients completed IBD -QoL questionnaires. IBD -QoL, which includes 35 assessments on a 5-choice scale (0-4.5), is used to validate the effectiveness, validity, and response of IBD -SSS to therapy. We scaled the total value from 0 (lowest) to 100 (highest). An overall IBD value of 100 scales assesses the effect of genuine signs of IBD -QoL, which is performed at equal intervals as IBD -SSS and IBD -QoL scores.

Lab investigations.

Regular checks in the lab have been carried out on the patients, including an Erythrocyte Sedimentation Rate (ESR), Complete Blood Count (CBC), elements of hemoglobin, sugar levels, kidney processes, serum proteins, feces, and stool analysis. To rule out individuals with inflammation colon illness, fecal calprotectin and fecal bleeding in the stool were determined for every enrolled patient. Further visits were scheduled at one, three, and six months. After our trial, we evaluated overall IBD scores, testing results, and development variables (body height, weight, and BMI).

Food Frequency Questionnaires (FFQs) Test: Previous to the assistance, participants were asked to reply to an FFQ, a commonly used measure for measuring food intake over a set period of time. The modified FFQ was designed to capture essential features of the MD by including 16 items evaluated on a range of 0 to 13. Respondents let both self-administer the questionnaire and have a discussion with a physician, such as pediatrician or nutritionist. The grading method awarded values depending on the topic of the replies, with inquiries implying an adverse bond to the MD obtaining an outcome of -2 and those showing a favorable connection obtaining a rating of +2.

FFQs are a popular approach for monitoring food consumption within a set length of time. Respondents are often asked to provide the frequency and quantity of food consumption for specific foods or types of food. An FFQ that has been adapted to identify the main elements of the MD might be developed. The rank is a number between 0-13. It depends on the 16-question exam that may be completed by self-administration or by interview (pediatrician, dietician, etc.). Queries implying an adverse connection with the MD are awarded a score of -2, while those demonstrating a good connection have been given a value of +2. The completed test results are classified into three

degrees: (2) 9 ideal adherences to the MD; (3) 5-8, adherence development is required to adapt consumption to Mediterranean patterns; (4) 4, and Inadequate attention to the MD.

The present study's major goal is to evaluate the impact of following an MD for six months on IBD signs and severity score. Another goal is to evaluate the MD's safety and acceptability in children and young adults.

Statistical Analysis.

An average number of 48 IBD patients in all groups are required to obtain a probability of over 90 to identify a variance of 70 in the standard deviation of the main result criterion (IBD -SSS). We selected greater than the projected amount of respondents, anticipating an absence of adherence to the MD or departure from the research, which would undermine our findings. The version of SPSS 17 (SPSS Inc., Chicago, Illinois, USA) was used to gather and analyze the findings. We reported the ongoing values as mean ± Standard Deviation (SD). We used a combination t-test to evaluate a similar team prior to and following therapy. To compare groups 1 and 2, a separate t-test has been conducted. The variable categories were reported as numeral and quantity, and the Goodness-of-fit test was used to analyze them. The correlation of Pearson's value was utilized to assess the relationship between the MD and IBD ratings. The significance level was determined using P less than 0.05.

Results.

This study consisted of 200 kids and teenage IBD patients from 13 to 19 ages, split into two distinct groups of 100 patients. The CG carried 52 men's and 48 women with an average age of 15.2±1.5 years, whereas SG included 54 men's and 46 women with an average age of 15.5±1.8 years. Earlier in the research, the mean period of IBD symptoms was 34.31±9.81 months with the first group and 35.41±9.12 months with the second group. Table 1 depicts the treatment drugs, demographics, growing characteristics of IBD, severity, and IBD scores. When we first started our investigation, we didn't find any noticeable variations comparing both groups in any of the characteristics we assessed.

Fundamental laboratory findings are gathered from all patients at the outset of our research Table 2 and figure 1, and there are no significant variations from the two groups in terms of Triglycerides (114.93±50.42 mg/dl in the CG and 123±46.63 mg/dl in the SG, P = 0.45), albumin levels (4.32±0.90g/dl in the CG and 4.14±0.94g/dl in the SG, with P = 0.94). Serum cholesterol (164.63±45.12 mg/dl in CG and 156±37.62 mg/dl in SG, P = 0.36), Random blood glucose level (86.72±9,74 mg/dl in CG and 86.22±21.21 mg/dl in SG, P = 0.92), and the hemoglobin level (13.62±1.82 g/dl in the CG and 13.13±1.64 g/dl in the SG, P = 0.48). Calprotectin stool levels are average in both groups (11±8.82 g/g in the CG and 13±9.13 g/g in the SG, p = 0.53), and it had been conducted to rule out people with IBD.

Patients with IBD showed good tolerance to the MD. Merely three individuals could not endure it and were removed from the trial (new participant's substituted two clients after three months, while one client was removed after one month; check Figure 1 below). When comparing the laboratory variables (serum albumin, cholesterol, triglycerides, sugar levels, and red blood cell levels) at the conclusion of our investigation to

Table 1. *Characteristics of patients with IBD before initiating the MD.*

Determinants	Control group (n=100)	Study group ((Mediterranean diet) (n=100)	Value *P*
Age	15.2 ± 1.5	15.5 ± 1.8	-
Sex (m:w)	52:48	54:46	0.90[2]
Height	0.05 ± 1.00	0.05 ± 1	0.66[1]
Weight	0.13 ± 0.90	0.15 ± 0.98	0.83[1]
BMI	0.18 ±1.03	0.19 ± 0.89	0.77+
IBD severity	-	-	-
Severe	6 (12%)	6 (12%)	-
Mild	15 (30%)	13 (26%)	-
Moderate	32 (64%)	34 (68%)	-
Duration of IBD symptoms (months)	34.31 ± 9.81	35.41 ± 9.21	0.58[1]
Treatment drugs[3]	-	-	0.66[1]
Antibiotics probiotics	722	925	-
Gastroprokinetic	52	52	-
Antacids	22	20	-
Antidepressants	13	10	-
IBD -SSS	148 ± 42.3	224 ± 71	0.68[1]
IBD -QoL	76.7 ± 8.1	61.3 ± 9.8	0.71[1]
Total score (cumulative rating)	29.3 ± 11.7	32.6 ± 12.1	0.82[1]

Table 2. *Early research of laboratory findings for all patients.*

Determinants	Control group (n=100)	Study group (Mediterranean diet) (n=100)	Value *P*
Cholesterol (mg/dl)	164.63±45.12	156±37.62	0.36
Hemoglobin (g/dl)	13.62±1.82	13.13±1.64	0.48
Albumin (g/dl)	4.32±0.90	4.14±0.94	0.94
Glucose (mg/dl)	86.72±9,74	86.22±21.21	0.92
Triglycerides (mg/dl)	114.93±50.42	123±46.63	0.45
Fecelcalprotectin (µg/g) n<100	11±8.82	13±9.13	0.53

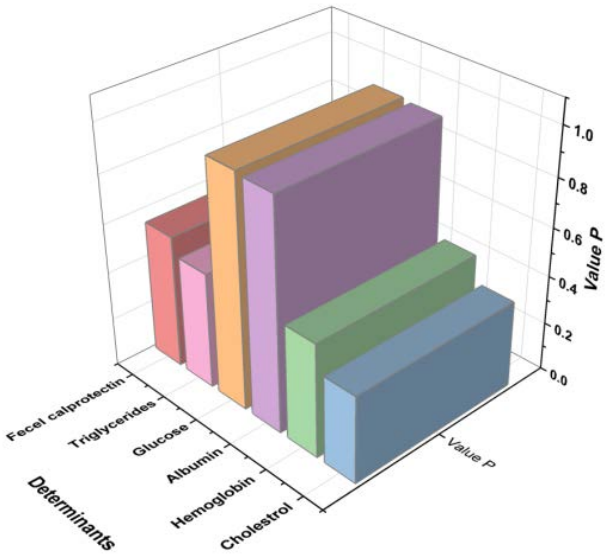

Figure 1. *Determinants of Laboratory Findings.*

similar variables at the beginning of the study and in contrast to the collective, we observed no substantial variations that indicated any negative effects related to the MD.

At the final stage of our study, we noticed a significant increase for every IBD value in IBD patients who obtained an MD group 2 (SG) relative to such values at the outset of the research, along with comparing to group 1 (CG). The growth parameters were examined in both the CG and SG, indicating little differences. In the CG, the average growth values for height were 1.00, weight 0.90, and BMI 1.03. In contrast, the SG values for height, weight, and BMI were 1.00, 0.98, and 0.89, respectively. These results indicate small changes in growth patterns between the two groups, underlining the significance of further research to better understand the possible effects of these variances on general diets and growth. Patients in the CG had IBD scores of 148.1 on the IBD-SSS, 76.7 on the IBD-QOL, and 29.3 on the cumulative rating. In contrast, the SG had somewhat higher IBD scores, including an IBD-SSS of 224.1, an IBD-QOL of 61.3, and Cumulative Rating of 32.6 See Figures 2-4.

Discussion.

The MD was shown to be effective and secure in IBD patients in the present investigation. Great compliance with the MD showed significant gains in IBD scores and IBD -QoL compared to the CG.IBD scores in total. Several prior researches on children and teenagers showed a detrimental relationship. Conformity through the MD and the growth of certain disease

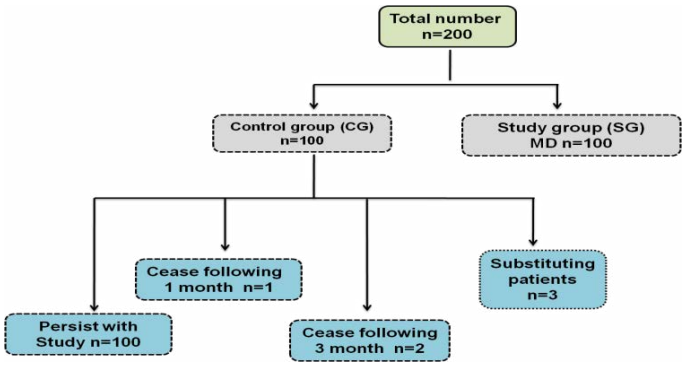

Figure 2. *Number of Patients with IBD.*

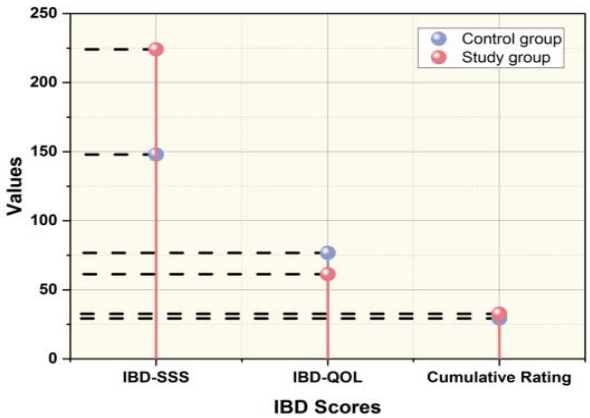

Figure 3. *The Growth Parameter Scores of CG and SG.*

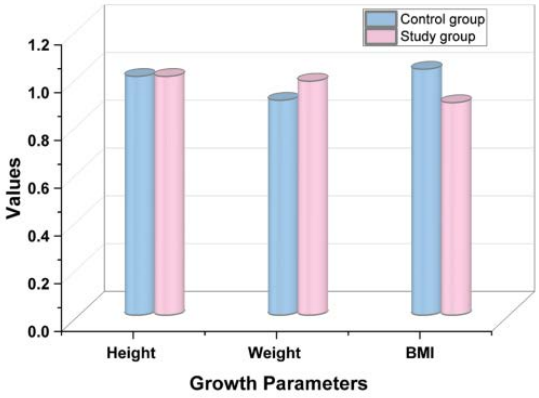

Figure 4. *IBD Scores of CG and SG.*

conditions, Weight gain, breathing difficulties, and repeated colds are examples of these illnesses. Regarding the probable link between MD commitment and the formation of FGIDs, extensive research from adult patients shows the MD's positive impact on avoiding or decreasing the emergence of FGIDs, GI symptoms in patients with functional illnesses of GI like IBD, well-designed indigestion, etc. The MD was well-received in IBD patients enrolled in the present research; however, three individuals were unable to ingest it and evacuated from the research (after a month, after three months, and change with substitute clients). There are no negative effects of the MD. The study revealed that fundamental laboratory findings among all patients showed no significant variations between the two groups in terms of various health indicators. Triglyceride levels in the CG were 114.93±50.42 mg/dl, and in the SG, they were 123±46.63 mg/dl, with a p-value of 0.45. Similarly, albumin levels showed no significant difference, with 4.32±0.90 g/dl in the CG and 4.14±0.94 g/dl in the SG, yielding a p-value of 0.94. The comparison of serum cholesterol, random blood glucose, and hemoglobin levels also demonstrated no statistically significant disparities between the two groups (p-values of 0.36, 0.92, and 0.48 were later compared with similar variables at the beginning of the research and to the study group after our research. The growth parameters were assessed in both the CG and SG, revealing slight variations. In the CG, the average growth values were 1.00 for height, 0.90 for weight, and 1.03 for BMI. Conversely, in the SG, the corresponding values were 1.00 for height, 0.98 for weight, and 0.89 for BMI. These findings suggest subtle differences in growth patterns between the two groups, emphasizing the importance of further analysis to understand the potential impacts of these variations on overall diet and development.

In the CG, participants exhibited IBD scores with an IBD-SSS score of 148.1, an IBD-QOL score of 76.7, and a Cumulative Rating of 29.3. In contrast, the SG displayed slightly higher IBD scores, with an IBD-SSS of 224.1, an IBD-QOL of 61.3, and a Cumulative Rating of 32.6. These scores suggest that individuals in the SG experienced a greater severity of symptoms and a marginally lower quality of life compared to those in the CG. The divergence in these scores sets the stage for exploring the impact of the intervention on improving symptom severity and overall quality of life in the subsequent analysis. The present research's advantage is that it is the initial one to provide data on

the relationship among the MD and IBD symptoms in kids and teens. The key drawback is the cross-section design, enabling the evaluation of excellent connections yet excluding linked findings. Because the research was conducted at one place, the results cannot be generalized.

Conclusion.

The study's findings imply that following the MD is beneficial and connected with considerable improvements in IBD scores of kids and teens. Nevertheless, additional study is needed to understand the underlying processes and causation of the Mediterranean diet and IBD. Subsequent research, including extensive analysis of metabolites and microbiome evaluations, might confirm our findings, providing a thorough knowledge of the relationship between nutrition and health. In the interim, it is recommended that young people adopt the Mediterranean diet in addition to other steps to alleviate symptoms.

REFERENCES

1. Strisciuglio C, Cenni S, Serra MR, et al. Diet and pediatric functional gastrointestinal disorders in Mediterranean countries. Nutrients. 2022;14:2335.
2. Salari-Moghaddam A, Keshteli AH, Esmaillzadeh A, et al. Empirically derived food-based inflammatory potential of the diet, irritable bowel syndrome, and its severity. Nutrition. 2019;63:141-7.
3. Kataria R, Pickett-Blakely O. The Mediterranean Diet in Gastrointestinal and liver diseases. Current Treatment Options in Gastroenterology. 2020;18:718-28.
4. Spiller R. Impact of diet on symptoms of the irritable bowel syndrome. Nutrients. 2021;13:575.
5. Salari-Moghaddam A, Keshteli AH, Esmaillzadeh A, et al. Adherence to the pro-inflammatory diet concerning prevalence of irritable bowel syndrome. Nutrition journal. 2019;18:1-0.
6. Altomare A, Del Chierico F, Rocchi G, et al. Association between dietary habits and fecal microbiota composition in irritable bowel syndrome patients: A pilot study. Nutrients. 2021;13:1479.
7. Agakidis C, Kotzakioulafi E, Petridis D, et al. Mediterranean diet adherence is associated with a lower prevalence of functional gastrointestinal disorders in children and adolescents. Nutrients. 2019;11:1283.
8. Dimidi E, Whelan K. Food supplements and diet as treatment options in irritable bowel syndrome. Neurogastroenterology & Motility. 2020;32:e13951.
9. El-Salhy M, Hatlebakk JG, Hausken T. Diet in irritable bowel syndrome (IBD): interaction with gut microbiota and gut hormones. Nutrients. 2019;11:1824.
10. Lenhart A, Dong T, Joshi S, et al. Effect of exclusion diets on symptom severity and the gut microbiota in patients with irritable bowel syndrome. Clinical Gastroenterology and Hepatology. 2022;20:e465-83.
11. Eder P, Niezgódka A, Krela-Kaźmierczak I, et al. Dietary support in elderly patients with inflammatory bowel disease. Nutrients. 2019;11:1421.
12. Kinilau TM. Diet Recommendations for Patients with Irritable Bowel Syndrome. 2022.
13. Georgoulis M, Karachaliou A, Lekakis V, et al. The Effectiveness of a Natural Aqueous Extract of Chios Mastic in the Management of Irritable Bowel Syndrome: The MASTIQUA Randomized Controlled Clinical Trial. J Food Sci Nutr. 2023;9:2.
14. Bellini M, Tonarelli S, Barracca F, et al. A low-FODMAP diet for irritable bowel syndrome: some answers to the doubts from a long-term follow-up. Nutrients. 2020;12:2360.
15. Abboud M, Haidar S, Mahboub N, et al. Association between Serum Vitamin D and Irritable Bowel Syndrome Symptoms in a Sample of Adults. Nutrients. 2022;14:4157.
16. Goyal O, Batta S, Nohria S, et al. Low fermentable oligosaccharide, disaccharide, monosaccharide, and polyol diet in patients with diarrhea-predominant irritable bowel syndrome: a prospective, randomized trial. Journal of Gastroenterology and Hepatology. 2021;36:2107-15.