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ASSESSMENT OF THE EFFECT OF A PROBIOTIC PREPARATION CONTAINING SACHAROMYCES BOULARDII ON THE INTESTINAL MICROBIOCENOSIS IN ACUTE INFECTIOUS DIARRHEA IN CHILDREN

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Abstract
This article describes the assessment of the effect of a probiotic preparation containing S. boulardii (CNCMI-745 strain) on the intestinal microbiocenosis in the complex treatment of children with acute infectious diarrhea still the age of 5 years.

Keywords: children, acute diarrhea, intestinal microbiocenosis, probiotic, Saccharomyces boulardii, dysbacteriosis.

Introduction

According to the World Health Organization, more than 1 billion people are infected with acute intestinal infections every year, 65-70% of which are children under 5 years of age. [8]
Normal microbiocenosis is a complex association of microorganisms that mutually affect each other's way of life and are in constant contact with the human body. [4,5]
It is known that the human intestinal microflora consists of trillions of microorganisms, of which 150-200 are widespread and about 1000 are relatively rare strains, and the total number of genes is 150 times more than the human genome.[6]
In acute intestinal infections, microbiocenosis is observed in 95-97% of cases, and this process remains relevant until now. [3,9;];
Therefore, in the complex treatment of diarrhea, it is necessary to take into account the dysbiotic changes in the intestine in time. [1,2] For this purpose, it is very important to use preparations containing obligate lacto- and bifidobacteria, fungi. There is a non-bacterial microorganism classified as a probiotic agent: it is the yeast Saccharomyces boulardii CNCM I-745.

Materials and Methods

During 2018-2020, 150 patients and children who applied to the Department of Acute Intestinal Infections Institute of Scientific Investigation Epidemiology, Microbiology and Infectious Diseases were registered for the research work. The diagnosis was determined on the basis of clinical, bacteriological (intestinal microbiocenosis analysis), serological (detection of viral antigen from stool samples by IFT (in 100 patients) and PCR (in 12 patients)) and statistical data.

Decision No. 122 of the Ministry of Health of the Republic of Uzbekistan dated 25.03.2015 "On improving measures against diarrhoea, paratyphoid, salmonellosis and O'II among the population of the Republic" in diagnosing patients was taken as a basis.

Research materials. 112 patients under 5 years of age with acute infectious diarrhea of various etiologies were randomized according to 2 divided into groups. According to it, 78 children formed the main group and 34 children formed the control group. The main group consisted of 74 children who received the drug Enterol (S. Boulardii) 1 sachet per day for children under 1 year of age, 1 sachet per day for children 1-5 years old, 2 times per day for 3-5 days in the context of complex treatment. the control group consisted of 34 children who received complex treatment only.

Results and their Discussion

Most of the children under study (69.8%) had III degree of dysbacteriosis, 2.5 times less than II degree, and 6 times less often IV degree (28.6% and 11.6%, respectively). Dysbacteriosis grade I was not noted in any patient in the study. (diagram 1)

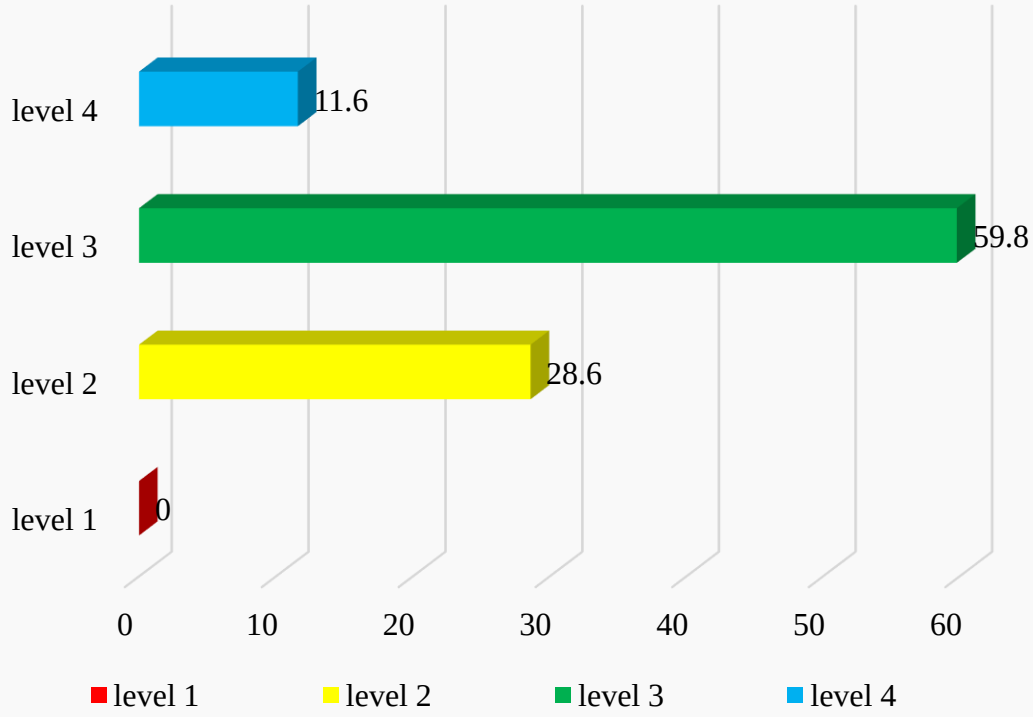

Diagram 1 Levels of dysbacteriosis in children with acute intestinal infections

During our study, after adding Enterol to the treatment course, positive changes in the intestinal microbiocenosis in both groups of patients were analyzed in the cross-

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section of groups based on the level of pathological compounds in the general fecal analysis. (diagram 2)

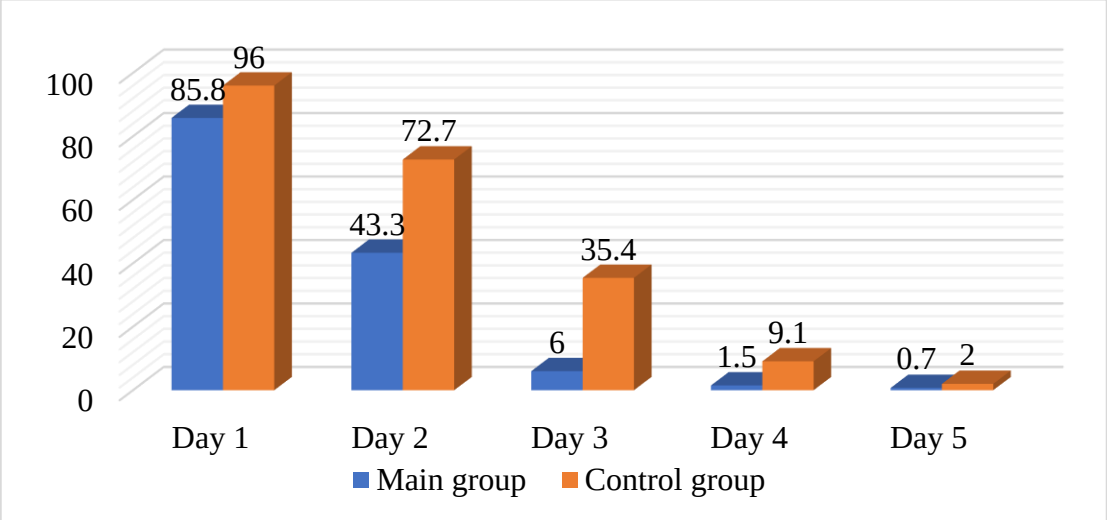

Diagram 2 The level of pathological mixtures in the general fecal analysis after the addition of Enterol to the treatment course

As can be seen from diagram 3, after adding Enterol to the treatment course, the occurrence of pathological compounds in the general fecal analysis of patients in the main group decreased to 43.3% (2 times) by the 2nd day, and on the 5th day The indicator was 0.7%. In the comparative group, these indicators are 72.7% and 2%, respectively.

In order to study the effect of the probiotic drug on the intestinal microflora, changes in the intestinal microflora as a result of acute intestinal infections were analyzed in both groups of patients before treatment. The results are shown in diagram 4.

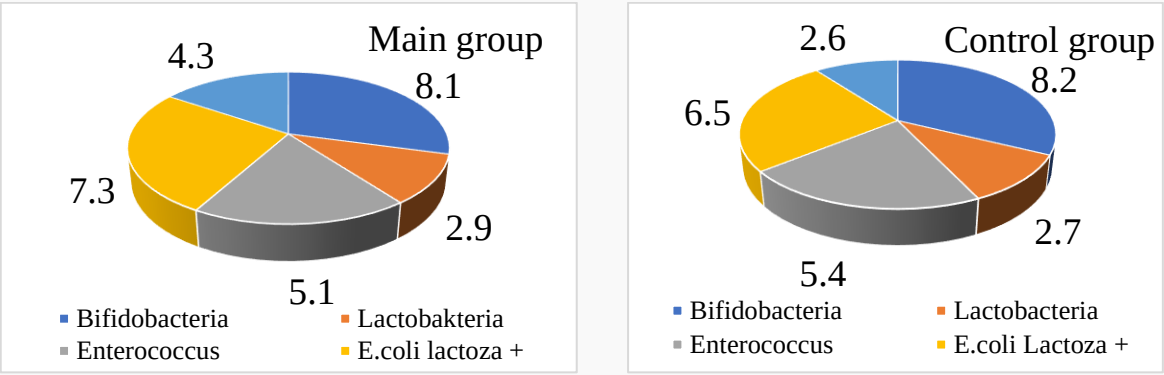

Diagram 3 Changes in the intestinal microflora before treatment in groups

As shown in diagram 4, bifidobacteria with manifestations of intestinal microflora in the main group of patients is 8.1; enterococci 5.1; lactose negative E. Coli 4.3; lactobacilli 2.9; Lactose-positive E. Coli is 7.3 colony forming unit/s, while in the

comparative group this indicator is 8.2, respectively, bifidobacteria; enterococci 5.4; lactose negative E. Coli 2.6; lactobacilli 2.7; lactose positive E. Coli was 6.5 colony forming unit/g. It can be seen that in the analysis of changes in intestinal microflora before treatment, no reliable differences between groups were detected (R>0.05).

Changes in intestinal microflora were analyzed in both groups of patients after Enterol was added to the treatment course. (diagram 4)

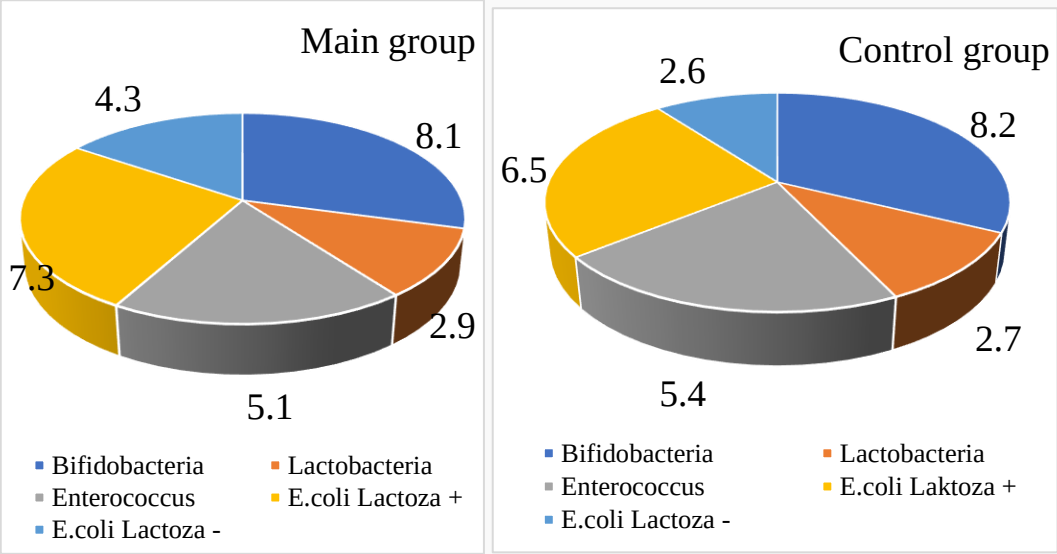

Diagram 4 Changes in the intestinal microflora after adding Enterol to the treatment

As shown in diagram 4, after adding Enterol to the treatment course, bifidobacteria with manifestations of intestinal microflora in the main group of patients was 9.6; enterococci 5.5; lactose negative E. Coli 3.0; lactobacilli 4.1; lactose positive E. Coli is 7.4 KHQB/g, and in the comparative group this indicator is 9.2, respectively, bifidobacteria; enterococci 6.2; lactose negative E. Coli 3.7; lactobacilli 3.4; lactose positive E. Coli was 7.8 KHQB/g. It can be seen that after the addition of Enterol to the course of treatment, positive changes in the intestinal microflora were compared, and no reliable differences between the groups were detected (R>0.05). In the study, after adding Enterol to the course of treatment, the reduction in the duration of diarrhea in both groups of patients was analyzed in the cross section of the groups. The results are presented in diagram 5.

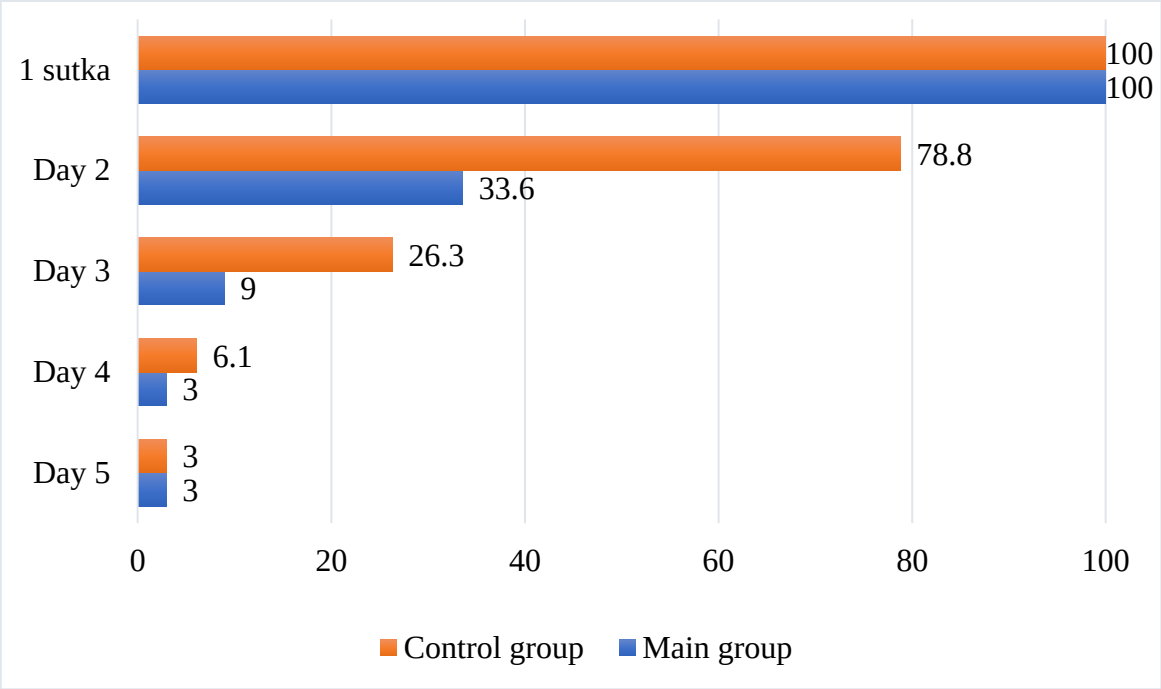

Diagram 5 Duration of diarrhea in groups after adding Enterol to the treatment course

Conclusions:

1. Violation of microbiocenosis in children with acute infectious diarrhea was observed in 95-97% of cases. 2-3 degrees of intestinal dysbacteriosis were observed relatively more.
2. According to clinical-laboratory indicators and intestinal microflora status, when using a drug containing S. boulardii (CNCMI - 745 strain), which is considered a probiotic, the occurrence of pathological compounds in the general fecal analysis of patients decreased by 2 times on the 2nd day. positive changes occurred in the intestinal microflora.

List of used literature

1. Ashurova S. B. Bolalardagi o'tkir yuqumli diareyalarda Saccharomyces boulardii qo'llanilishi samaradorligini baholash TTA axborotnomasi № 3/2, 2023 39-43
2. Ashurova S.B. Evaluation of the effectiveness of saccharomyces boulardii in children with acute infectious diarrhea GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ) ISSN (E): 2347-6915 Vol. 11, Issue 04, April (2023) 394-397
3. Elmurodova A.A., Jalilova A. S. 2022. Modern Approaches to Treatment of Chronic Giardiasis. Central Asian Journal of Medical and Natural Science. 3, 2 (Mar. 2022), 102-105.

4. Da Cruz Gouveia MA, Lins MT, da Silva GA. Acute diarrhea with blood: diagnosis and drug treatment. J Pediatr (Rio J). 2019. pii: S0021-7557(19)30490-5. doi: 10.1016/j.jped.2019.08.006.
5. Davani-Davari D., Negahdaripour M., Karimzadeh M., Seifan M., Mohkam M., Masoumi S. J., Berenjian A., Ghasemi Y. Prebiotics: Definition, Types, Sources, Mechanisms, and Clinical Applications. Foods. 2019; 8(3): 92. DOI: 10.3390/foods8030092
6. Mokomane M., Kasvosve I., de Melo E. et al. The global problem of childhood diarrhoeal diseases: emerging strategies in prevention and management // Ther Adv Infect Dis. 2018; 5 (1): 29–43.
7. Plaza-Diaz J., Ruiz-Ojeda F.J., Gil-Campos M., Gil A. Mechanisms of Action of Probiotics. Adv Nutr. 2019; 10(Suppl 1): S49–S66. DOI: 10.1093/advances/nmy063
8. Yang B, Lu P, Li MX, Cai XL, Xiong WY, Hou HJ, Ha XQ. A meta-analysis of the effects of probiotics and synbiotics in children with acute diarrhea. Medicine 2019;98:37(e16618)
9. Всемирная организация здравоохранения. Диарея [цит. 2017 май 02]. Информационный бюллетень; 2019. [World Health Organization. Diarrhea [citation 2017 may 02]. Newsletter; 2019. (In Russ).] Доступно по: https://www.who.int/ru/news-room/factsheets/detail/diarrhoeal-disease.
10. [М.Қ. Тоиров], Г.А. Арашова, С.Г. Худойдодова, М.Р. Мирзаева Антибиотикларга полирезистент Шигелла Флекснер чақирган ўткир дизентериянинг серологик ва клиник тавсифи. Инфекция, иммунитет и фармакология. 1 (1), 96-99, 2015.