GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ)
ISSN (E): 2347-6915
Vol. 11, Issue 04, April (2023)

EVALUATION OF THE EFFECTIVENESS OF SACCHAROMYCES BOULARDII IN CHILDREN WITH ACUTE INFECTIOUS DIARRHEA

Ashurova Sanam Bakhtiyor qizi
Bukhara State Medical Institute named after Abu Ali ibn Sina
Тел.: +998914190989; E-mail: ashurovasanam10792@gmail.com

ABSTRACT

This article describes the evaluation of the effectiveness of S. boulardii (CNCMI-745 strain) in the complex treatment of children with acute infectious diarrhea still the age of 5 years. Due to its biological properties, this drug acts on a wide range of pathogenic and opportunistic bacteria, suppressing the ability of bacteria to produce toxins and neutralizing them, strengthening protection against non-specific infection. Reason is a complex of enzymes (lactase, maltase, etc.), it significantly regulates and stimulates digestion, promotes better assimilation of food.

Keywords: acute diarrhea, children, probiotic, Saccharomyces boulardii, microbiocenosis, dysbiosis.

INTRODUCTION

Acute intestinal infections are the second most common infectious diseases in children after acute respiratory viral infections. [8] Seasonality and age criteria are characterized by the formation of non-persistent, short-term species-specific immunity. This leads to the redevelopment of the infectious process caused by another stimulus within a limited period. [3,5]

According to the World Health Organization, more than 1 billion people are infected with acute intestinal infections every year, of which 65-70% are children under 5 years of age. [8] Normal microflora is the strongest barrier to pathogenic microflora, it strongly prevents their colonization, participates in the antagonistic effect on the synthesis of a large number of metabolites. Therefore, in the complex treatment of diarrhea, it is necessary to take into account dysbiotic changes in the intestine in time. [1;9] For this purpose, it is very important to use preparations containing obligate lacto- and bifidobacteria, fungi.

WHO states that the use of probiotics in the treatment of diarrhea is very effective. [8;4] Probiotics are beneficial bacteria that have positive health effects when consumed in sufficient amounts. [7] Based on the results of 31 randomized placebo-controlled studies, in 27 studies involving a total of 5029 patients, S. boulardii was listed as a probiotic with strong indications for use in the treatment of children with acute gastroenteritis. [2;6]

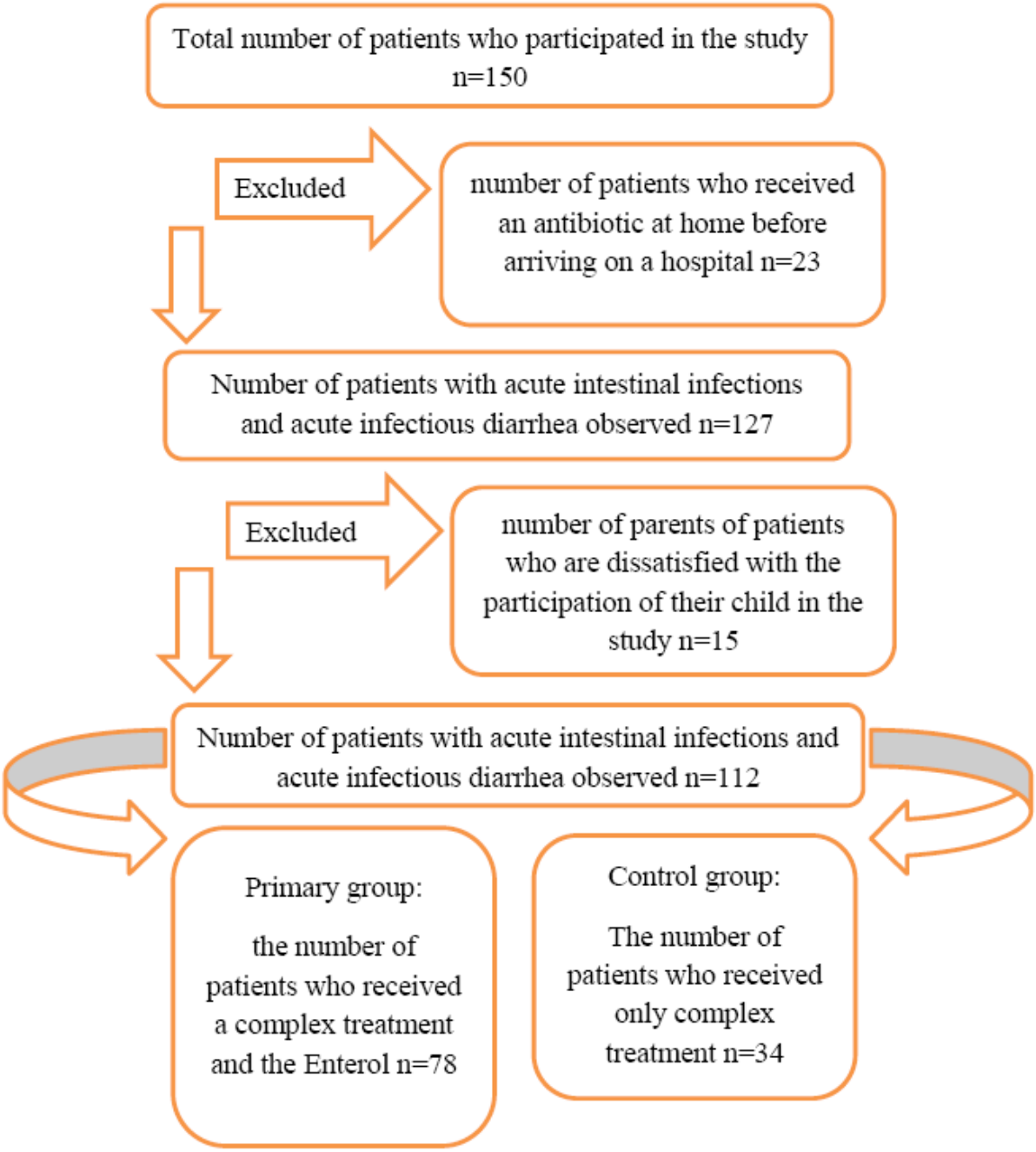
MATERIALS AND METHODS

For research work, 150 children with acute intestinal infections who applied to the acute infectious diarrhea department Institute of scientific investigation of Epidemiology and Infectious Diseases during 2018-2020 years were registered. The diagnosis was determined on the basis of clinical, bacteriological (intestinal microbiocenosis analysis), serological (detection of viral antigen from stool samples by IFA (in 100 patients) and PCR (in 12 patients)) and statistical data. When diagnosing patients, the Decision No. 122 of the Ministry of Health of

the Republic of Uzbekistan dated 03.25.2015 "On improvement of measures against diarrhea, paratyphoid, salmonellosis and acute intestinal infections among the population of the Republic" was used as a basis.

Research materials - 112 children under 5 years of age with diarrhea of various etiologies. The main group consisted of 74 children who received the drug Enterol (S. Boulardii) 1 sachet once a day for children under 1 year old, 1 sachet 2 times a day for children 1-5 years old for 3-5 days, and the control group only 34 children received complex treatment. (Table 1)

Table 1 Classification of patients into primary and control groups based on the formation of choice according to the criteria for the introduction and release of sick children into the study



RESULTS AND THEIR DISCUSSION

Half of the patients under the study were children under 1 year old, 1/3 were children under 1-3 years old, and only 19% were children under 3-5 years old. 56.3% of sick children were boys, 43.7% were girls. (Table 2-3)

Table 2 Age distribution of children with acute infectious diarrhea

Age	Acute infectious diarrhea n=112	
	Absolute	%
0-1years old	21	18,8
1-3 years old	56	51,0
3-5 years old	35	31,3

Table 3 Gender distribution of children with acute infectious diarrhea

Gender / Number	Male	Female
Absolute	63	49
%	56,3	43,8

In most patients (69.8%) according to dysbacteriosis levels, III was observed, with II levels occurring 2.5 times less than that, while IV levels were recorded 6 times less (28.6% and 11.6%, respectively). Not a single patient in the study was found to have I levels of dysbacteriosis (Figure 1)

In the study of the intestinal microflora before treatment in the compared groups, there were no reliable differences (R>0.05), mainly changes related to bifidobacteria and lactose-negative E. coli (8.1%; 7.3% and 8.2%, respectively; 6.5%).

Diarrhea and vomiting symptoms stopped 1.5 days earlier in children in the main group, their duration was 2.9 and 1.2 days, and in children in the control group, they lasted 4.4 and 1.8 days. In children in the main group, symptoms such as decreased appetite and abdominal pain stopped 1.3 days earlier than in children in the control group (2.1; 2.9 and 2.4; 3.1 days, respectively). Children in the main group had a 1.3-day reduction in hospital stay compared to children in the control group. On day 2, only 33.6% of children in the main group had diarrhea, and 78.8% of children in the control group. Duration of diarrhea more than 3 days was observed in children in the main group almost 3 times less often than in children in the control group (9%; 26.3%, respectively).

After using Enterol in the intestinal microflora, the amount of bifidobacteria and lactose-positive E. coli increased (respectively 9.6%; 7.4% and 9.2%; 7.8%), the amount of lactose-negative E. coli decreased (respectively 3% and 3.7% respectively.

CONCLUSIONS

1. Disruption of microbiocenosis in children with acute infectious diarrhea was observed in 95-97% of cases. 2-3 levels of intestinal dysbiosis were more observed.

2. According to clinical-laboratory parameters and intestinal microflora status, the use of a drug containing S. boulardii (CNCMI - 745 strain), which is considered a probiotic, improves the general condition of sick children by reducing the increase in body temperature, signs of intoxication, diarrhea, the duration of the disease, and the length of stay in the hospital. led to improvement.

REFERENCES

1. Bruzzese E., Giannattasio A., Guarino A. Antibiotic treatment of acute gastroenteritis in children Version 1 // Res. 2018; 7: 193.
2. Ibanez L, Pontier-Bres R, Larbret F, Rekima A, Verhasselt V, Blin-Wakkach C, Czerucka D. Saccharomyces boulardii strain CNCM I-745 modifies the mononuclear response in the small intestine of mice following Salmonella Typhimurium infection. Front Immunol 2019; 10: 643 [DOI: 10.3389/fimmu.2019.00643.eCollection2019]
3. 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.
4. 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
5. 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.
6. 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
7. 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)
8. World Health Organization. Diarrhea [cited 2017 May 02]. Newsletter; 2019. (In Russ).] Available at: https://www.who.int/ru/news-room/factsheets/detail/diarrhoeal-disease.
9. [M.Q. Toirov], G.A. Arashova, S.G. Khudoydodova, M.R. Mirzaeva Serological and clinical description of acute dysentery caused by polyresistant Shigella Flexner. Infection, immunity and pharmacology. 1 (1), 96-99, 2015
10. Pechkurov D. V., Tyajeva A. A. Chronic diarrhea and its diagnosis: basic causes and mechanisms, primary diagnosis, approaches to treatment. Voprosy sovremennoy pediatrii. 2019; 18 (6): 416–423. doi:10.15690/vsp.v18i6.2061).