To Determine Outcome of Probiotics in Treatment of Acute Diarrhoea in Children

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ABSTRACT
Aim: To determine outcome of probiotics in treatment of acute diarrhea in children aged 6 months to 5 years as compared to control
Setting: Department of Pediatrics, Khyber Teaching Hospital, Peshawar
Duration: From 23 May, 2019 to 23 Nov, 2019
Study design: Randomized Control Trial
Methodology: 200 children were divided in two equal groups. Group A were given Probiotics (Saccharomyces boulardii) in a dose of 250-500 mg daily in two divided doses for 5 days, in addition to oral rehydration solution 50-100ml and 100-200ml after each loose stool in child aged <2 years and >5 years respectively. Group B were given only oral rehydration solution in same amount as prescribed to Group A. All the children were followed up at day 4. Outcome was assessed in terms of duration of diarrhea and improvement in number of stools per day at the 5th day of presentation.
Results: In Group A, 92(92%) patients showed improvement while in Group B, 71(71%) patients showed improvement.
Conclusion: Probiotics are found to be significantly more effective in reducing the stool frequency in ac. diarrhea.
Keywords: Acute diarrhea, Probiotic, Saccharomyces boulardii (SB)

INTRODUCTION
In children, one of the leading cause of mortality <5 years of age is diarrhea all over the world. It is the second leading cause of death worldwide. In Pakistan, there are 500 deaths per day, and every child on average has 5-6 episodes of diarrhea annually. Water and electrolytes loss resulting from loose motions is the main cause of morbidity and mortality in children and infants. American Academy of Pediatrics, the Canadian Paediatric Society and the European Society for Gastroenterology, Hepatology and Nutrition recommend the use of oral rehydration therapy in children with mild to moderate dehydration. However there are many adjunctive therapies currently under trial and one of them is probiotics.

Probiotics, a live microbial preparations, provide a health benefit to the patient. It is suggested that probiotics increase the immunity in such a manner that it is directed towards protective responses in the patients. It builds up the necessary gut flora that is washed out due to increased intestinal motility in diarrhea.

The objective of the study was to determine outcome of probiotics in treatment of acute diarrhea in children aged 6 months to 5 years as compared to control.

METHODOLOGY
After permission from Ethical Committee, this randomized controlled trial was conducted in the Department of Pediatrics, Khyber Teaching Hospital, Peshawar from 23 May, 2019 to 23 Nov, 2019. A minimum sample size of 100 in each group was calculated. Sample technique used was non probability consecutive sampling.

METHODS

RESULTS
The detail of results is given in table 1—11

Table 1: Frequencies and Percentages for Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Group A</th>
<th>Group B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months to 2 Yrs</td>
<td>60(60%)</td>
<td>60(60%)</td>
<td>120(60%)</td>
</tr>
<tr>
<td>3 to 5 Yrs</td>
<td>40(40%)</td>
<td>40(40%)</td>
<td>80(40%)</td>
</tr>
</tbody>
</table>

Table 2: Frequencies and Percentages for Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Group A</th>
<th>Group B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>68 (68%)</td>
<td>68 (68%)</td>
<td>136 (68%)</td>
</tr>
<tr>
<td>Female</td>
<td>32 (32%)</td>
<td>32 (32%)</td>
<td>64 (32%)</td>
</tr>
</tbody>
</table>
In this study, in Group A, 60(60%) patients were between 6 months to 2 years of age while 40(40%) patients were in 3 to 5 years of age. In Group B, 60(60%) patients were between 6 months to 2 years of age while 40(40%) patients were in 3 to 5 years of age. In Group A, 68(68%) patients were male patients and 32 (32%) patients were female. In Group B, 68(68%) patients were male patients and 32 (32%) patients were female. In Group A, parents of 52(52%) patients were from rich families, 44(44%) patients were from middle class families and 27(27%) patients were from poor families. In Group B, 35(35%) patients were from rich families, 44(44%) patients were from middle class families and 21 (21%) patients were from poor families. According to one study, there was reduction in the duration of diarrhea in children treated with probiotics (4.7±2.5 days) as compared to control group (5.5±3.2 days). Moreover 96% of children treated with probiotics showed improvement in frequency of stools i.e, passed...
<3 stools per day at day 4 of treatment as compared to 78% of control group. Stools came back to normal consistency in 76% of children treated with probiotics as compared to 24% patients in control group as compared to this study\(^1\). However there are no guidelines for the role of probiotics in children with diarrhea\(^1\).

**CONCLUSION**

Probiotics are found to be significantly more effective in reducing the stool frequency in acute diarrhea.

**Conflict of interest:** Nil

**REFERENCES**


