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Research Article

**EFFICACY OF RACECADOTRIL AND PROBIOTICS IN
CHILDREN WITH DIARRHEA****¹Dr Samra Liaqat; ²Dr Malik Abid Ali; ³ Dr Asad Mahmood Khan.**¹Senior registrar (Paediatric Medicine), The children Hospital and Institute of Child Health;²Assistant Professor (Paediatric Medicine), King Edward Medical University, Lahore;³Associate Professor (Pharmacology), Faisalabad Medical University, Faisalabad**Article Received:** July 2019**Accepted:** August 2019**Published:** September 2019**Abstract:****Objective:** To determine the efficacy of Racecadotril and probiotics in children presenting with diarrhoea.**Study design:** Descriptive case series.**Place and duration of study:** The children Hospital and Institute of Child Health, Faisalabad during 15-05-2019 to 15-07-2019.**Material and Methods:** In this study the cases of either gender with age up to 12 years were included. The subjects were enrolled that were suffering from acute diarrhoea. Then these cases were offered a combination of Racecadotril and probiotics in standard doses according to the weight of the patient as per WHO guidelines and were looked for improvement in symptoms. The efficacy was labelled as yes where there was no more diarrhoea or stool frequency less than 2/day after 48 hours of this medication.**Results:** In this study 100 cases were selected. Mean age of the subjects was 6.11 ± 1.23 years and mean duration of symptoms was 2.39 ± 0.47 days. Mean WBC count was 10.91 ± 4.74 and mean weight was 11.91 ± 2.65 kg. There were 61% males and 78% were from rural population. Efficacy was seen in 86 (86%) of the cases.**Conclusion:** Combination of Racecadotril and probiotics in children presenting with diarrhoea is highly efficacious.**Key Words;** Diarrhea, Racecadotril, Probiotics**Corresponding author:****Dr. Samra Liaqat,**

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INTRODUCTION:

Despite major advances over the past few decades in the use of efficient oral hydration regimens, acute diarrheal disease in children younger than 5 years continues to represent a relevant health problem that generates significant morbidity and an important burden imposed on society.¹ Currently, it is considered to be responsible for 10% of all deaths in children < 5 years of age, which in absolute numbers represents around 800,000 deaths every year and 240,000 visits to the emergency department/country/year.²⁻³

Recently, a survey on prescription patterns by emergency pediatricians in the USA and an analysis of practice patterns in Canada documented significant variations in therapeutic approaches, many of them due to inconsistent implementation of existing clinical practice guidelines (CPG) or medical directives. This way, only 28% of emergency physicians were identified to efficiently manage a CPG/care pathway and only in 38% of the cases were there written and validated directives on oral hydration standardized management.³⁻⁵

When recently published or about to be published CPGs for the treatment of acute diarrheal disease are analyzed, it was seen that, although most of them are consistent with regard to the recommendation of reduced osmolarity oral rehydration solutions as the cornerstone of treatment and recommendations to a larger or lesser extent of other co adjuvant agents such as racecadotril, smectite, probiotics and zinc, most recommendations originate in separately-analyzed clinical trials or systematic reviews with meta-analyses assembled in a traditional manner, which practically entirely include direct comparisons of any of the above mentioned co adjuvants, with no indirect comparison analyses of these with each other having been conducted up to this moment.⁶⁻⁸

OBJECTIVE:

To determine the efficacy of Racecadotril and probiotics in children presenting with diarrhoea.

PATIENTS AND METHODS:

This descriptive case series study was carried out at Department of Paediatrics, The children Hospital and Institute of Child Health, Faisalabad during 15-05-2019 to 15-07-2019. In this study the cases of either gender with age up to 12 years were included. The subjects were enrolled that were suffering from acute diarrhoea where the diarrhoea was labelled according to the standard definition of increased in the frequency or volume of the stool. Then these cases were offered a combination of Racecadotril and

probiotics in standard doses according to the weight of the patient as per WHO guidelines and were looked for improvement in symptoms. The efficacy was labelled as yes where there was no more diarrhoea or stool frequency less than 2/day after 48 hours of this medication.

STATISTICAL ANALYSIS:

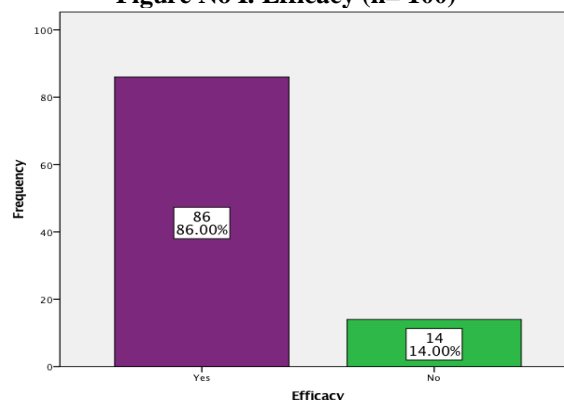
The data was entered and analysed by SPSS-version 23.0. qualitative variables were presented as frequencies and quantitative as mean and standard deviation.

RESULTS:

In this study 100 cases were selected. Mean age of the subjects was 6.11 ± 1.23 years and mean duration of symptoms was 2.39 ± 0.47 days. Mean WBC count was 10.91 ± 4.74 and mean weight was 11.91 ± 2.65 kg. There were 61% males and 78% were from rural population as in table I. Efficacy was seen in 86 (86%) of the cases as shown in figure I.

Table No. I. Study variables (n= 100)

Variables	Mean \pm SD	Range
Age	6.11 ± 1.23	1-12
Duration of symptoms	2.39 ± 0.47	1-3
Number of stools/day	7.33 ± 2.24	3-15
WBC count	10.91 ± 4.74	4-21
Weight	11.91 ± 2.65	4-24
Variables	Frequency	Percentages
Male	61	61%
Female	39	39%
Urban	78	78%
Rural	22	3%

Figure No I. Efficacy (n= 100)**DISCUSSION:**

Acute gastroenteritis remains as an important cause of morbidity and mortality among children, especially in countries with limited resources.

Although there is a significant proportion of mild and self-limited cases, it represents an important cause for hospitalization and is associated with significant burden of disease. Analysed from a global perspective, it acquires a huge importance from the public health point of view if we consider that it generates approximately 20% of all deaths occurring in children younger than 5 years in the world.⁹

Despite the intense promotion to consider oral rehydration solutions as the cornerstone of treatment, less than 20% of children with acute gastroenteritis are estimated to optimally receive a preventive or therapeutic regimen for this type of problems, which entails high rates of hospitalization, complications, long hospital stays and significantly high direct and indirect costs.¹⁰

In the present study efficacy of Racecadotril and probiotics in children presenting with diarrhoea was seen in 86 (86%) of the cases. These results were comparable to the studies done in the past with these two modalities were assessed separately or in comparison to each other rather than in combination of these two. About 75% of all studies have reported on global efficacy of Racecadotril, mostly assessed after three but in few cases also after 5 days of treatment. These global efficacy estimates are based on categorical classification of treatment outcome as markedly effective/effective/ineffective or as cured/improved/not improved. Almost all studies applying such global efficacy estimates came from China. The National Diarrhea Prevention and Treatment Commission in China endorses such global efficacy assessment and has issued a formal definition. According to this definition, 'markedly effective' means that diarrhea frequency was reduced to <2 times per day within 24–48 h of medication, the water content had clearly decreased, the stool routine microscopy test was positive, the stool had a fully formed or soft appearance, and the clinical symptoms had completely disappeared; 'effective' means that diarrhea was reduced to <4 times per day within 48–72 h of medication, the water content had clearly decreased, the stool microscopy test was negative, and the clinical symptoms had essentially disappeared; 'ineffective' means that there was no alleviation in diarrhea within 72 h, it even worsened in some cases, and there was no change in general symptoms.¹¹⁻¹² Similar good efficacious results were seen by the study done by Saez et al.¹³

Meta-analyses of probiotic studies with LGG on treatment of acute diarrhea have shown a reduction of diarrhea duration by 1 day and a study on persistent diarrhea reduced duration by 4 days. The

meta-analyses on acute diarrhea found that LGG seems to have slightly higher effect in studies with a dose of 10 billion CFU/day compared with studies with lower doses and there was a tendency toward lower effect in non-European countries compared with European countries.¹⁴⁻¹⁵ Some older studies with BB-12 found an effect on diarrhea, but 2 new larger studies in hospitalized and community-based children showed no effect on diarrhea.¹⁶⁻¹⁹

CONCLUSION:

Combination of Racecadotril and probiotics in children presenting with diarrhoea is highly efficacious.

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