

# Evaluation of Various Treatment Modalities in Treating Diarrhoea Patient's at a Tertiary Care Centre: A Comparative Analysis

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## Abstract

**Background:** Diarrhea is a common problem affecting up to 5% of the population at a given time. Patients vary in their definition of diarrhea, citing loose stool consistency, increased frequency, urgency of bowel movements, or incontinence as key symptoms. The present study was conducted to evaluate and compare various treatment modalities in treating diarrhoea patients at a tertiary care centre. **Subjects and Methods:** The present study was conducted to evaluate and compare various treatment modalities in treating 240 diarrhoea patients. All the patients were grouped into three study groups with 80 patients in each group: group 1- included patients who were given Metronidazole therapy, group 2- patients who were given Ofloxacin therapy, and group 3 – patients who were given Norfloxacin therapy. Stool samples were obtained from patients of all the study groups for assessing the effectiveness of treatment therapy. Only clinical success was recorded. Statistical analysis was performed using the Statistical Package for the Social Sciences software version 21.0 (SPSS Inc., Chicago, IL, USA) and level of significance was assessed using Chi- square test. **Results:** In our study total sample size was 240 in which 175 were males and 65 were females. In group 1 patients with 3 to 4 times stool per day were 29 and more than 4 times per day were 53 whereas in group 2 patients with 3 to 4 times stool per day were 34 and more than 4 times per day were 49 and in group 3 patients with 3 to 4 times stool per day was 31 and more than 4 times per day were 44. The clinical success of group 1 was 96% , group 2 was 93.97% and group 3 was 93.33%. **Conclusion:** Present study concluded that Metronidazole therapy had better clinical success than Ofloxacin therapy and Norfloxacin therapy.

**Keywords:** Diarrhoea, Metronidazole, Ofloxacin, Norfloxacin.

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## Introduction

Diarrhea can refer to urgency or high stool frequency, although most patients use the term to describe changes in consistency (loose or watery stools).<sup>[1]</sup> Most diarrheal episodes in developed countries are acute and self-limited and are usually due to infections. In immunocompetent patients, acute infectious diarrhea typically resolves within 4 weeks (most commonly within 1 week). Therefore, chronic diarrhea is defined as that lasting longer than 4 weeks. It is estimated that 1%–5% of adults suffer from chronic diarrhea.<sup>[2]</sup> Along the small bowel both absorption and secretion of fluid and electrolytes occur; normally there is net absorption. Diarrhoea can result when either decreased absorption or increased secretion occurs. Classic secretory Diarrhoea is caused most commonly by toxins produced by various bacterial pathogens such as Staphylococcus, Escherichia coli, and Vibrio cholerae. Certain hormones, when produced in excess, such as vasoactive intestinal peptide (VIP) and gastrin produced by pancreatic tumors, and calcitonin produced by medullary cancer of the thyroid, can also stimulate excessive mucosal secretion, leading to Diarrhoea.<sup>[3-5]</sup> The present study was

conducted to evaluate and compare various treatment modalities in treating diarrhoea patients at a tertiary care centre.

## Subjects and Methods

The present study was conducted at Department of Medicine, Dr. S. N. Medical College, Jodhpur, Rajasthan (India) to evaluate and compare various treatment modalities in treating 240 diarrhoea patients. Before the commencement of study ethical approval was obtained from the Ethical committee of the Institution and informed consent was obtained from all the patients after explaining protocol of the study. All the patients were grouped into three study groups with 80 patients in each group: group 1- included patients who were given Metronidazole therapy, group 2- patients who were given Ofloxacin therapy, and group 3 – patients who were given Norfloxacin therapy. Stool samples were obtained from patients of all the study groups for assessing the effectiveness of treatment therapy. Only clinical success was recorded. Statistical analysis was performed using the Statistical Package for the Social Sciences software version 21.0 (SPSS Inc., Chicago, IL,

USA) and level of significance was assessed using Chi-square test.

## Results

All the 240 patients were grouped into three study groups with 80 patients in each group: group 1- included patients who were given Metronidazole therapy, group 2- patients who were given Ofloxacin therapy, and group 3 – patients who were given Norfloxacin therapy. In our study total sample size was 240 in which 175 were males and 65 were females. In group 1 patients with 3 to 4 times stool per day were 29 and more than 4 times per day were 53 whereas in group 2 patients with 3 to 4 times stool per day were 34 and more than 4 times per day were 49 and in group 3 patients with 3 to 4 times stool per day was 31 and more than 4 times per day were 44. The clinical success of group 1 was 96%, group 2 was 93.97% and group 3 was 93.33%.

**Table 1: Distribution according to gender**

Gender	n(%)
Male	175(72.91%)
Female	65(27.08%)
Total	240(100%)

**Table 2: Clinical history**

Parameter	Group 1	Group 2	Group 3
Stool frequency			
3 to 4 per day	29	34	31
More than 4 per day	53	49	44
Consistency of stool			
Liquid	24	23	20
Liquid and Semisolid	26	25	26
Semisolid	32	35	29

**Table 3: Clinical success**

Treatment	Group 1	Group 2	Group 3	p-value
Clinical success	79(96%)	78(93.97%)	70(93.33%)	<0.05

## Discussion

The main goal in the management of acute diarrhoea is to prevent dehydration (if there are no signs of dehydration), treat dehydration (when it is present), and prevent nutritional insufficiency, particularly in children, by feeding during and after diarrhoea.<sup>[6]</sup> The first two objectives can be achieved with ORS solution therapy which is accepted as the gold standard to achieve clinically-efficacious and cost-effective management of acute gastroenteritis.<sup>[6,7]</sup> Unless the patient is comatose or severely dehydrated, ORS solution is recommended regardless of the causative agent and age of the patient because ORS solution therapy is less expensive,<sup>[6,8]</sup> often just as effective, and more practical

than intravenous fluid.<sup>[9]</sup> All the 240 patients were grouped into three study groups with 80 patients in each group: group 1- included patients who were given Metronidazole therapy, group 2- patients who were given Ofloxacin therapy, and group 3 – patients who were given Norfloxacin therapy. In our study total sample size was 240 in which 175 were males and 65 were females. In group 1 patients with 3 to 4 times stool per day were 29 and more than 4 times per day were 53 whereas in group 2 patients with 3 to 4 times stool per day were 34 and more than 4 times per day were 49 and in group 3 patients with 3 to 4 times stool per day was 31 and more than 4 times per day were 44. The clinical success of group 1 was 96%, group 2 was 93.97% and group 3 was 93.33%.

Tayal R conducted a study in which maximum clinical and microbiological success was recorded in 97.5 percent of the patients of Metronidazole group.<sup>[10]</sup>

## Conclusion

Present study concluded that Metronidazole therapy had better clinical success than Ofloxacin therapy Norfloxacin therapy.

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