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Research Article

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Clinical Effect of Diarrhea Stop Capsule in Patients with Acute Diarrhea

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ABSTRACT

Introduction: Diarrhea remains a significant global health concern, particularly in developing countries. Herbal formulations have shown promise in managing acute and functional diarrhea with fewer side effects compared to conventional drugs.

Objective: The aim study was to investigate the clinical efficacy and safety of Diarrhea Stop Capsule, a polyherbal formulation in patients with acute diarrhea.

Methods: open-label, randomized clinical study of Diarrhea Stop Capsule was conducted for treatment of diarrhea in patients with diarrhea. 40 hospitalized patients with acute diarrhea. Patients were divided into 2 groups. Group1 consist of 30 Patients were received a single dose 2 capsules of Diarrhea Stop Capsule orally and Group 2 consist of 10 patients treated with metronidazole 500mg IV. Clinical parameters as stool frequency, consistency using the Bristol Stool Scale, abdominal pain and bloating, were assessed. These parameters were assessed before and after each 2 hours for six hours of oral Diarrhea Stop Capsule group2 and metronidazole IV group 1 for three days.

Results: demonstrated significant improvement in stool frequency, consistency, abdominal pain and bloating after 2hours of single dose 2 capsules of Diarrhea Stop Capsule orally administration (group1). On other hand, group 2 was not significantly improved, as well as high significantly as compared with group1.

Conclusion: Diarrhea Stop Capsule demonstrated significant clinical efficacy in reducing symptoms of acute diarrhea without adverse events. Its polyherbal composition provides a safe and effective option for short-term management of diarrhea.

Keywords: Diarrhea, Stop, Capsule, Acute, Diarrhea

Introduction

Diarrhea, defined by increased stool frequency and liquidity, remains a major public health concern, particularly in low-income countries. The World Health Organization (WHO) estimates that diarrhea causes nearly 1.6 million deaths annually, especially among children under five years old [1]. While pharmaceutical antidiarrheals are effective, they may carry side effects such as constipation, dependency, or systemic toxicity. Consequently, herbal remedies are being reconsidered for their efficacy, affordability, and historical safety.

Acute diarrhea, defined as the passage of three or more loose stools per day, is commonly caused by infections, dietary factors, or gut dysbiosis. According to the WHO, diarrhea is the second leading cause of death in children under five and a major cause of morbidity globally [1]. Conventional antidiarrheals, though effective, often carry risks of adverse effects, especially in vulnerable populations [2].

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Herbal medicine offers a safer alternative, with several plants show very effective as antidiarrheal.

Pomegranate peel contains tannins and ellagitannins that have antimicrobial and astringent properties. Studies have shown its effectiveness in inhibiting diarrhea-causing pathogens and reducing intestinal fluid secretion [3]. Guava leaves are rich in flavonoids like quercetin, which demonstrate anti-inflammatory and antispasmodic effects. They reduce intestinal motility and fluid loss [4]. Chamomile possesses anti-inflammatory and antispasmodic effects due to compounds like apigenin and bisabolol. It soothes intestinal lining and reduces cramps [5]. Carob contains tannins and insoluble fiber that help absorb excess water and bind toxins in the gut, making it effective in treating acute diarrhea [6]. Black tea is a rich source of catechins and tannins with astringent and anti-inflammatory effects, commonly used in folk medicine for diarrhea [7]. Ginger has antimicrobial and gut-soothing properties. It alleviates nausea and intestinal inflammation, making it supportive in gastrointestinal disorders [8]. Mint's essential oils exhibit carminative, antispasmodic, and mild antimicrobial effects. It helps calm the stomach and reduce gut spasms [9]. The aim of the study is to evaluate the clinical effect of Diarrhea stop capsule in patients with diarrhea.

The hypothesis of new formulation of Diarrhea Stop capsule contain mixture of seven natural herbs with different amounts for each one which was done by Prof. Dr. Hussien O. Kadi and Ismail Hamoud Ali Al-geobri (Patent).

Materials and Methods

Open-label, randomized clinical study of Diarrhea Stop Capsule was conducted for treatment of diarrhea in patients with diarrhea. 40 hospitalized patients with acute diarrhea aged 18–50 years with a BMI of 18.5–25 kg/m² were enrolled.

This study was conducted at Yemen University 24/4/2025 to evaluate the clinical effect of Diarrhea Stop capsule (herbal product) on 40 patients diagnosed with acute diarrhea. Patients were divided into 2 groups. Group 1 30 Patients were received a single dose 2 capsules of Diarrhea Stop Capsule orally and Group 2 consist of 10 patients treated with metronidazole 500mg IV. Each patient gave a written informed consent and the Ethics Committee of Yemen University; Faculty of medical Sciences approved the clinical protocol and have been performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. The study was conducted following the ethical principles outlined in the Declaration of Helsinki and Good Clinical Practice (GCP) guidelines.

Clinical parameters as stool frequency, consistency using the Bristol Stool Scale, abdominal pain and bloating, were assessed. These parameters were assessed before and after each 2 hours for six hours of oral Diarrhea Stop Capsule (group1) and metronidazole IV for three days (group 2) [10,11].

Statistical Analysis

Paired t-tests were conducted to compare before and after-treatment values. A p-value greater than 0.05 was considered statistically non-significant, indicating no clinically relevant effects. Group 1and group 2 were compared using SPSS version 21, ANOVA test.

Results

As shown in table 1 Group 1 (Diarrhea Stop Capsule) showed a significant reduction in stool frequency from 6.5 ± 1.2 to 2.1 ± 0.5 after 2 hours post-treatment, in contrast with Group 2 (Metronidazole 500mg IV) demonstrated a reduction from 6.3 ± 1.1 to 3.5 ± 0.6. The statistical analysis $p < 0.001$ confirmed a significant difference as compared with Group 1. Stool consistency improved from a watery/semi-liquid state (6.2 ± 0.9) to (3.5 ± 0.6) in Group 1, while group 2 improvement from 6.1 ± 1.0 to 4.2 ± 0.7. This difference was statistically significant at $p < 0.001$. In Group 1, abdominal pain scores decreased significantly from 3.8 ± 0.7 to 1.2 ± 0.4, while group 2 showed only a moderate decrease from 3.7 ± 0.8 to 2.0 ± 0.5. This was significant difference as compared with group 1at $p < 0.001$. Group 1 showed a significant reduction in bloating from 4.0 ± 0.6 to 1.5 ± 0.3. Group 2 showed a reduction from 3.9 ± 0.7 to 2.3 ± 0.4. This difference was also statistically significant ($p < 0.001$).

Table 1: Clinical Effect of Oral Diarrhea Stop Capsule and Metronidazole Iv in Patients with Acute Diarrhea

Clinical Indicator	Group 1 Before	Group 1 After	Group 2 Before	Group 2 After	P-value
Stool Frequency	6.5 ± 1.2	2.1 ± 0.5	6.3 ± 1.1	3.5 ± 0.6	< 0.001
Stool Consistency	6.2 ± 0.9	3.5 ± 0.6	6.1 ± 1.0	4.2 ± 0.7	0.001
Abdominal Pain	3.8 ± 0.7	1.2 ± 0.4	3.7 ± 0.8	2.0 ± 0.5	< 0.001
Bloating	4.0 ± 0.6	1.5 ± 0.3	3.9 ± 0.7	2.3 ± 0.4	< 0.001

Discussion

The observed improvement aligns with the pharmacological properties of the formulation's ingredients. Guava leaves possess antispasmodic effects [4], pomegranate peel has antimicrobial action [3], and chamomile soothes gut inflammation [5].

The present study showed that Diarrhea Stop Capsule orally produced a significant reduction in stool frequency, stool consistency improved from a watery/semi-liquid state, supporting the efficacy of Diarrhea Stop Capsule in normalizing stool form, abdominal pain scores decreased significantly, suggesting a strong analgesic or antispasmodic effect and reduction in bloating, reflecting notable gastrointestinal comfort. This indicates a rapid antidiarrheal effect of Diarrhea stop capsule in contrast with Metronidazole 500mg IV.

The present results indicate that Diarrhea stop capsule formulation of mixture of seven herbs is very effective in the treatment of acute diarrhea.

These herbs exhibit multiple mechanisms contributing to their antidiarrheal effect: tannins promote astringency and reduce intestinal secretion; flavonoids inhibit motility and inflammation;

essential oils possess antimicrobial activity. Combined in a multi-herb formulation, they act synergistically to manage diarrheal symptoms effectively.

The present study suggests that Most herbs in the Diarrhea Stop formulation are generally recognized as safe (GRAS). Clinical and preclinical studies support their efficacy.

Unlike loperamide or antibiotics, polyherbal preparations like Diarrhea Stop Capsule offer multifaceted relief, including antimicrobial, astringent, anti-inflammatory, and antispasmodic effects [12,13].

Conclusion

Diarrhea Stop Capsule demonstrated significant clinical efficacy in reducing symptoms of acute diarrhea without adverse events. Its polyherbal composition provides a safe and effective option for short-term management of diarrhea.

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