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CLINICAL EVALUATION FOR SAFETY, EFFICACY AND ADVERSE DRUG REACTION OF CONSTAC PLUS AN IMPROVED POLYHERBAL FORMULATION WHEN USED FOR CHRONIC CONSTIPATION

[1]*Dr. Ashwin Porwal, [2]Dr. Deepak Kulkarni and [3]Dr. Paresh Gandhi

[1]Consultant Colorectal Surgeon, Healing Hands Clinic.
[2]General Surgeon, Healing Hands Clinic.
[3]General Surgeon, Healing Hands Clinic.
4th floor, Millennium Star Extension, Above KFC, Adjacent to Ruby Hall Clinic,
Dhole Patil Road, Pune, Maharashtra, India.

***Corresponding Author: Dr. Ashwin Porwal**

Founder, Consultant Colorectal Surgeon, Healing Hands Clinic.

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Abstract:
Defecation is a natural process where waste discharge as faeces goes out from the body. While defecation lack of satisfaction, reduced/infrequent frequency of stools or difficulty/prolonged evacuation, too small, too hard while stool passage increases the probability of having constipation in the individuals. The prevalence of constipation ranges from 8.75% in Asia Pacific. With respect to Indian Population Constipation Scoring System were used in 170 participants Total 7(3.3%) participants reported the adverse events which includes nausea (22%), vomiting (17%), diarrhea (22%), abdominal pain (26%), Heart Burn (acidity) (13%) while taking follow up and decided not to continue further in the study. Mean (SD) of total 170 participants in constipation scoring system before treatment was 17.41 with range of 16, 29. All participant were analyzed for the score from 2nd week Mean (SD) was 14.70(6.50), 4th Week Mean (SD) 13.45(6.48), 8th Week Mean (SD) 11.04(5.81), 16th Week (SD) 8.04(5.17), 24th week Mean (SD) 5.13(3.29). Results show continuous decrease in mean value of total score and improvement in constipation symptoms reported by participants. In this new improved formula is been formulated and clinical evaluations were done in this study to see efficacy; safety treatment caused adverse events (TCAD) of Constac Plus powder in chronic constipation.

INTRODUCTION

Chronic constipation is a common symptom, to date no international consensus has been reached regarding its definition. Inability to completely evacuate the bowels or passing very hard stools is known as Constipation or Vibandh in Ayurveda. Defecation is a natural process where discharge of faeces goes out from the body.[1] While defecation lack of satisfaction, reduced/infrequent frequency of stools or difficulty/prolonged evacuation, too small, too hard while stool passage,[2] increases the probability of having constipation in the individuals. Bloating, abdominal pain, pelvic pain, nausea are the non-specific symptoms sometimes associated with the constipation.[3] Such individual come to clinic with the symptoms which include straining, difficulty in passing out stool, after stool passing feeling of dissatisfaction, taking too much time to pass out stool, requirement of maneuvers to take out stool from body, and presence of all these for from 3 to 12 months,[4] could be chronic constipation. It has been reported to be more common in women, non-whites and elderly people aged >65 years. The prevalence of constipation ranges from 8.75% in Asia Pacific,[5] and based on the Rome III criteria its varying levels around the world, from 8.2% to 32.9%.[6,7] In India also constipation is a common scenario but individually it varies in clinical presentation and traditional medicines were used to get relief from the symptoms since the ancient times effectively. In Ayruveda many single medicines, polyherbal formulations, and now a day many proprietary formulations are also suggested to get relief from the symptoms. In Healing hands clinic a new improved formula is been formulated and clinical evaluations were done in this study to see efficacy, safety treatment caused adverse events (TCAD) of Constac Plus powder in chronic constipation.

OBJECTIVE

1. To Evaluate the safety, and efficacy of improved constac plus formulation in patients with constipation.
2. To evaluate the treatment caused adverse drug reaction after using constac plus.

MATERIAL AND METHODS

Constac Plus Powder Ingredients.
1. Hirada (Fruit) *Terminalia chebula*.[8]
2. Balhirada (Fruit) *Terminalia chebula.*[8]
3. Behada (Fruit) *Terminalia bellirica*.[9]
4. Amala (Fruit) *Emblica officinalis.*[10]
5. Ajwain (Seed) *Ptychotis ajowan*.[11]
6. Badishep (Fruit) *Foeniculum vulgare.*[21]
7. Mulethi (Root) *Glycyrrhiza glabra*.[13]
8. Elaichi (Fruit) *Elettaria cardamomum.*[14]
9. Erand Tail (Oil) *Ricinus communis*.[15]
10. Nishottar (Root) *Ipomoea turpethum.*[16]
11. Sonamukhi (Leaves) *Cassia Senna*.[17]
12. Narikel lavan (Processed salt with coconut).[18]
13. Permitted Preservatives and excipients q. s.

Drug Dose: 3- 5gm.

Usage Directions: Directly on tongue followed by luke warm water.

Ethics committee approval and regulatory compliance

This study was conducted after getting approval from independent ethics committee and conducted as per schedule Y of drug and cosmetics rule 1945[19], ICMR national ethical guidelines for biomedical and Health research involving human participants[20]. Every participant selected was informed and consent obtained before enrollment and initiation of the study. All information provided by the participant was studied and confidentiality was maintained.

Study Design

1. A Prospective, open label, Non Comparative, Single arm, single centre, Interventional.

Inclusion Criteria

1. Individual diagnosed by qualified physician as having chronic constipation**.**
2. Able to follow trial instructions.

Exclusion Criteria

1. Vulnerable individual who is unable to inform change in symptoms after taking treatment, above age 60 years.
2. Used another herbal or any other treatment for constipation in last 3 weeks.

Intervention

Independent ethics committee had approved the study to conduct. Before initiation patients were screened and confirmed for the chronic constipation by qualified physician. In this study symptomatic assessment of participants was done using constipation scoring system[21]. This scale generally used for the assessment of the constipation.

Constipation Scoring System (Minimum Score, 0; Maximum Total Score, 30)

1) Frequency of Bowel Movemnts Score

- 1-2 times per 1-2 days 0
- 2 times per week 1
- Once per week 2
- Less than once per week 3
- Less than once per month 4

2) Difficulty: Painful Evacuation Effort

- Never 0
- Rarely 1
- Sometimes 2
- Usually 3
- Always 4

3) Completeness: Feeling Incomplete Evacuation

- Never 0
- Rarely 1
- Sometimes 2
- Usually 3
- Always 4

4) Pain: Abdominal Pain

- Never 0
- Rarely 1
- Sometimes 2
- Usually 3
- Always 4

5) Time: Minutes in Lavatory per Attempt

- Less than 5 0
- 5-10 1
- 10-20 2
- 20-30 3
- More than 30 4

6) Assistance: Type of Assistance

- Withaout assistance 0
- Stimulative laxatives 1
- Digital assistance 2

7) Failire: Unsuccessful Attempts for Evacuation per 24 Hours

- Never 0
- 1-3 1
- 3-6 2
- 6-9 3
- More than 9 4

8) History: Duration of Constipation (Yr)

- 0 0
- 1-5 1
- 5-10 2
- 10-20 3
- More than 20 4

Safety and Efficacy of formulation has been confirmed by improvement in symptoms and continuous reduction in scale score over a period of 24 weeks in the total 32 weeks study. Participants have been followed up on

every 2 weeks, means on every 15th day enquired for any untoward effects.

Statistical Analysis

Using statistical significance P < 0.05 analysis was done. In this total score mean (SD) were calculated and correlated it with symptoms before treatment. All the questionnaires and scale is already validated and showed up to 96% prediction for constipation21. Significant reduction and improvement in symptoms were observed and which proves that the efficacy of formulation is improved. All adverse events (3.3%) found to be non serious.

RESULT

Total 210 patients were screened of which 170 were included only after obtaining voluntarily informed consent and as per inclusion criteria. All 170 participants successfully completed the study as per approved protocol. Total male participants were 58(34.11%) and 112(65.8%) were female. Mean age of participants were 38.86 years. Voluntary withdrawal of total 18(8.5%) patients was there, 15(7.1%) patients were screen failed as per exclusion criteria. Total 7(3.3%) participants reported the adverse events which includes nausea (22%), vomiting (17%), diarrhea (22%), abdominal pain (26%), Heart Burn (acidity) (13%) while taking follow up and decided not to continue further in the study. Mean (SD) of total 170 participants in constipation scoring system before treatment was 17.41 with range of 16, 29. All participant were analyzed for the score from 2nd week Mean (SD) was 14.70(6.50), 4th Week Mean (SD) 13.45(6.48), 8th Week Mean (SD) 11.04(5.81), 16th Week (SD) 8.04(5.17), 24th week Mean (SD) 5.13(3.29). It shows continuous decrease in mean value of total score and improvement in constipation symptoms reported by participants.

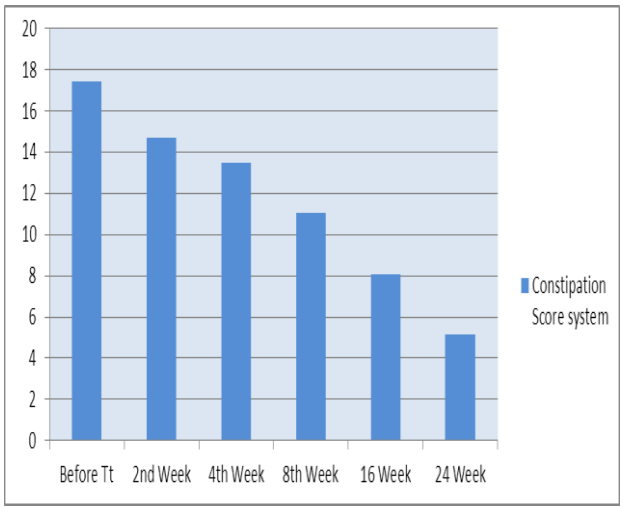

Figure 1: Efficacy of constac plus before treatment and after 24 weeks.

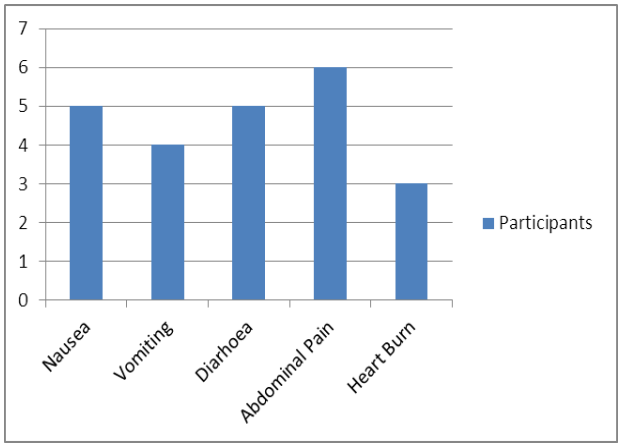

Figure 2: ADR after taking constac plus in participants.

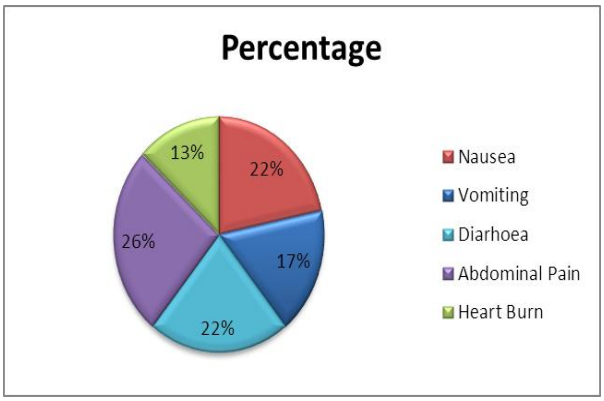

Figure 3: Overall distribution of ADRs caused by Constac plus.

DISCUSSION

In medical science, a personnel define constipation as <3 bowel movements per week, patients often equate constipation with stool consistency, feelings of incomplete emptying, straining, and urge for defecation.[22] In case of Indian scenario person normally defecate maximum 3times per day and minimum ≤ 3 per week as reported in the previous study.[23] This study is been conducted to see the effect of improved constac plus efficacy, safety and adverse events causing by treatment. To see efficacy and safety constipation score system scale were used. This scale basically use for diagnosis of constipation using questionnaires. All these questionnaires used and found that this formulation efficacy is good in constipation, because while using up to 24 weeks constipation related symptoms declining (Fig-1). Using this scale up to 96% cases were correctly predicted,[21] hence reduction in symptom score can be used to see the efficacy and safety analyzed using continuous follow up. It was found no serious adverse events were reported but 5 non serious adverse events were reported. Participants in this study were assessed using all these eight parameters.

CONCLUSION

Use of constipation scoring system was found to be effective way to see the improvements in participants when using constac plus powder. This scoring system was found accurate but needs revision when using Indian population. Further studies needed which could use and improve this scoring system. Need of other parameters like withdrawal symptoms after 24 weeks need to be added while conducting such studies to remove habit forming queries related to this formulation.

REFERENCES

1. https://en.oxforddictionaries.com/definition/defecation.
2. Sonnenberg A, Koch TR. Epidemiology of constipation in the United States. Dis Colon Rectum, 1989; 32: 1-8.
3. Brandt LJ, Prather CM, Quigley EM et al. Systematic review on the management of chronic constipation in North America. Am J Gastroenterol, 2005; 100 (Suppl 1): S5 – S21.
4. Manning AP, Thompson AG, Heaton KW, Morris AF. Toward positive diagnosis of the irritable bowel. BMJ, 1978; 2: 653-4.
5. Longstreth GF, Thompson WG, Chey WD, Houghton LA, Mearin F, Spiller RC. Functional bowel disorders, Gastroenterol, 2006; 130: 1480-91.
6. Chu H, Zhong L, Li H, Zhang X, Zhang J, Hou X. Epidemiology characteristics of constipation for general population, pediatric population, and elderly population in china. Gastroenterol Res Pract, 2014; 2014: 532-734.
7. Peppas G, Alexiou VG, Mourtzoukou E, Falagas ME. Epidemiology of constipation in Europe and Oceania: a systematic review. BMC Gastroenterol, 2008; 8: 5.
8. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 7.
9. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 9.
10. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 10.
11. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 25.
12. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 35.
13. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 62.
14. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 212.
15. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 286.
16. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 383.
17. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 453.
18. Chunekar KC, Pandey GS. Bhavprakash nighantu. Hindi commentary, chukhamba bharti academy varanasi, reprint, 2004; 314; 547.
19. https://www.rgcb.res.in/uploads/2014/07/Schedule-Y.pdf.
20. https://icmr.nic.in/guidelines/ICMR_Ethical_Guidelines_2017.pdf.
21. Agachan F, Chen T, Pfeifer J, Reissman P, Wexner SD. A constipation scoring system to simplify evaluation and management of constipated patients. Diseases of the colon & rectum, 1996; 39(6): 681-5.
22. Rooprai R, Bhat N, Sainani R, Mayabhate MM. Prevalence of functional constipation and constipation-predominant irritable bowel syndrome in Indian patients with constipation. International Journal of Basic & Clinical Pharmacology, 2017; 6(2): 275-85.
23. Panigrahi MK, Kar SK, Singh SP, Ghoshal UC. Defecation frequency and stool form in a coastal eastern Indian population. Journal of neurogastroenterology and motility, 2013; 19(3): 374.