

EFFECT OF YOGA AND NATUROPATHIC INTERVENTION ON FUNCTIONAL DYSPEPSIA: A CASE STUDY

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Abstract

Functional dyspepsia (FD) is a common functional gastrointestinal disorder characterized by chronic upper abdominal symptoms in the absence of identifiable structural abnormalities. Conventional treatment often provides incomplete symptom relief, prompting interest in complementary therapeutic approaches such as Yoga and Naturopathy. A 62-year-old female presented with postprandial fullness, epigastric pain, epigastric burning sensation, and early satiety for 2–3 years. Upper gastrointestinal endoscopy revealed visible erythematous mucosa in the antral region, and the patient fulfilled the Rome III diagnostic criteria for functional dyspepsia. Baseline assessment was performed using the Gastrointestinal Symptom Rating Scale (GSRS), Severity Evaluation Questionnaire (SEQ)-Dyspepsia, and Electrogastrography (EGG). The patient underwent an integrated Yoga and Naturopathy intervention for eight consecutive days, consisting of selected yoga practices, pranayama, Yoga Nidra, cold abdominal douche therapy, and dietary modification. Post-intervention assessment demonstrated improvement in gastrointestinal symptoms. Upper and lower gastrointestinal symptom scores improved by 31.57% and 34.69%, respectively. The total GSRS score showed a 32.35% reduction, while SEQ-Dyspepsia frequency and intensity scores improved by 35.89% and 30.55%, respectively. EGG findings also demonstrated changes in gastric myoelectrical activity following the intervention. This case suggests that an integrated Yoga and Naturopathy approach may be beneficial in reducing symptom burden and improving gastrointestinal function in patients with functional dyspepsia.

Key Words: Functional dyspepsia; Yoga Therapy; Naturopathy; Electrogastrography; Gastrointestinal Symptoms.

1. INTRODUCTION

Functional dyspepsia (FD) is a widely seen functional gastrointestinal disorder, defined by the presence of persistent or recurrent upper abdominal symptoms in the absence of any structural or biochemical abnormality that could account for the symptoms. Commonly, patients experience symptoms like postprandial fullness, early satiety, epigastric pain, and epigastric burning that can disrupt their daily life and functioning. Although there is no known organic pathology, there is a significant health care utilisation and psychological distress, so FD can be a very challenging clinical problem globally. The prevalence of the disorder is high and is found in all populations and age groups, and it hurts physical, social, and emotional health.[1] The mechanism of FD is complex and poorly understood. Several mechanisms have been proposed: gastric accommodation is impaired, gastrointestinal motility is disturbed, visceral hypersensitivity, low-grade inflammation, and disturbances in the gut–brain axis. Other disorders like stress, anxiety, and depression are also known to affect the severity of symptoms and the rate of progression in a disease. The physiological and psychosocial components of the disorder can influence the disorder's chronic and recurrent nature, and can result in variable responses to routine treatment interventions. [2] The primary treatment for FD currently is a symptom-control strategy with medication, diet, and lifestyle modifications. Prescribed medications are proton pump inhibitors, prokinetics, and antidepressants.[2] These treatments may be beneficial for some patients who have symptoms, but not always effective, and many patients continue to have symptoms even after long-term treatment. Moreover, it has been suggested that complementary and integrative therapies may be an alternative approach for functional gastrointestinal disorders in the long-term management of medication use, side effects, and relapse, and has thus gained momentum as a potential alternative non-pharmacological therapy. These are all concerned with a comprehensive approach to consider lifestyle, psychological, and physical issues that can aggravate symptoms. The naturopathic management typically includes dietary recommendations, hydrotherapy, lifestyle counselling, and stress management techniques to restore a normal physiology and enhance the digestive function,[3] with some evidence that these interventions can lead to better gastrointestinal health, such as more efficient digestive functioning and reduced burden of gastrointestinal symptoms in individuals with chronic gastrointestinal problems.[4]

Yoga therapy is a potentially beneficial complementary treatment for FD for its positive influence on autonomic function, stress, gastrointestinal motility and quality of life. Asanas, pranayama, and relaxation techniques have been correlated to improve parasympathetic activity and facilitate the digestive function, and reduce gastrointestinal discomfort. Yoga has been shown to have a beneficial impact on the digestive system, sleep quality, and mental health, which are all relevant to managing FD.[5] Recent reviews and case-based evidence also indicate that yoga therapy may play a role in decreasing symptom severity and enhancing patient outcomes in FD. [6-7]

The integrative approach of Yoga and Naturopathy has resulted in promising outcomes in treating different chronic ailments by stimulating self-healing processes and improving welfare.[8] But there is not much clinical documentation yet about their combined use in patients with FD. Hence, the present case study was conducted to assess the impact of an integrated Yoga and Naturopathy intervention on the reduction in the severity of symptoms, gastrointestinal function, and overall clinical outcomes in a patient with FD.

2. CASE PRESENTATION

A 62-year-old woman presented to the Department of Yoga and Naturopathy with a history of fullness, epigastric pain, epigastric burning sensation, and early satiety for 2–3 years after taking meals. These symptoms were recurrent, and most of them were worsened with eating. After careful clinical evaluation and diagnostic investigations, the patient was evaluated for FD. An upper gastrointestinal endoscopy was performed, and an erythematous mucosa was seen in the antral area. The patient met the Rome III diagnostic criteria for FD, based on the clinical presentation and findings at endoscopy. Table 1

Table 1. Clinical Timeline and Key Events

Timeline/Event	Clinical Details
2–3 years before presentation	Onset of postprandial fullness, epigastric pain, epigastric burning sensation, and early satiety
Baseline evaluation	Clinical examination and diagnostic assessment performed.
Endoscopic assessment	Visible erythematous mucosa observed in the antral region
Diagnosis	FD according to Rome III criteria
Intervention period	Yoga therapy, cold abdominal douche, and diet therapy for 8 days
Post-intervention assessment	GSRS, SEQ-Dyspepsia, and EGG reassessment

As seen in Table 1, the patient complained of dyspeptic symptoms for about 2–3 years prior to Yoga and Naturopathy management. After diagnosis, an integrated treatment of yoga therapy, naturopathic treatment, and diet modification was given for eight days.

Clinical Evaluation

A clinical assessment was carried out prior to the intervention. On endoscopy, the mucosa in the antral area was seen to be erythematous. Gastrointestinal Symptom Rating Scale (GSRS), Severity Evaluation Questionnaire (SEQ)-Dyspepsia, and Electrogastrography (EGG) were employed as baseline assessment tools. The baseline clinical findings and assessment parameters are summarized in Table 2.

Table 2. Baseline Clinical Findings

Parameter	Findings
Age	62 years
Gender	Female
Presenting complaints	Postprandial fullness, epigastric pain, epigastric burning, and early satiety
Duration of symptoms	2–3 years
Endoscopy findings	Visible erythematous mucosa in the antral region
Diagnostic criteria	Fulfilled Rome III criteria for FD
GSRS Total Score	68
SEQ-Dyspepsia Frequency Score	39
SEQ-Dyspepsia Intensity Score	36
EGG Mean Power Frequency	0.082 Hz
EGG (CPM)	4.96

At baseline, the patient had a high symptom burden with high GSRS and SEQ-Dyspepsia scores, as shown in Table 2. Using the electrogastrogram, the authors found that the power frequency averaged 0.082 Hz and that there were 4.96 gastric myoelectrical waves per minute (CPM).

Intervention

An integrated Yoga – Naturopathy intervention of 8 consecutive days was performed on the patient. The treatment was a cold abdominal douche, performed daily, with the water temperature at around 55° F. for Ten minutes. Treatment was carried out under controlled pressure and temperatures on the anterior abdominal wall. The dietary pattern encouraged in diet therapy was low-fat and easily digestible, moderate fibre, and small, frequent meals. Warm water, herbal drinks, fruits, cooked vegetables, dal preparations, rice, chapati, and

steamed foods were part of the diet. The yoga therapy protocol consisted of loosening, selective asana, pranayama, and relaxation exercises. Loosening exercises included neck movements, side movements of the spine, spinal rotations, wrist flex/ext., and ankle flex/ext. Asanas practiced were Tadasana, Ardha Chakrasana, Setubandhasana, and Pawanmuktasana. Sheetalī and sectional breathing were performed as Pranayama exercises, and Yoga Nidra was used as a relaxation technique. The complete intervention protocol is presented in Table 3.

Table 3. Intervention Protocol

Intervention Component	Protocol
Duration	8 days
Cold Abdominal Douche	10 minutes daily at 55°F
Loosening Exercises	Neck movements, side bending, spinal twisting, wrist and ankle movements
Asanas	Tadasana, Ardha Chakrasana, Setubandhasana, Pawanmuktasana
Pranayama	Sheetali, Sectional Breathing
Relaxation Technique	Yoga Nidra
Diet Therapy	Low-fat diet, moderate fiber intake, small frequent meals

The intervention included several components focused on gastrointestinal function, autonomic regulation, and digestive health, as shown in Table 3. Each therapy was used simultaneously during the eight-day intervention.

Outcome and Follow-Up

After completing the eight-day integrated Yoga and Naturopathy intervention, the patient experienced a significant decrease in dyspeptic symptoms. There were improvements noted in the main complaints of postprandial fullness, epigastric pain, epigastric burning sensation, and early satiety. The patient was more tolerable to meal and complained less of discomfort after eating than when it was in the baseline condition. The Gastrointestinal Symptom Rating Scale (GSRS), the Severity Evaluation Questionnaire (SEQ)-Dyspepsia, and the Electrogastrography (EGG) showed positive effects after the intervention. Summarised data of the pre and post intervention outcome measures is provided in Table 4.

Table 4. Pre- and Post-Intervention Outcome Measures

Outcome Measure	Baseline	Post-Intervention
GSRS Total Score	68	45
SEQ-Dyspepsia Frequency Score	39	25
SEQ-Dyspepsia Intensity Score	36	25
EGG Mean Power Frequency (Hz)	0.082	0.079
EGG (CPM)	4.96	4.78

No change was seen after intervention in either the GSRS or SEQ-Dyspepsia scores of the questionnaires (Table 4), suggesting that gastrointestinal symptom burden as a whole was reduced, and that the frequency and intensity of symptoms was reduced. Following the treatment, the patient experienced fewer dyspeptic sensations and greater functioning in daily activities. Changes of gastric myoelectrical activity also were observed with electrogastrographic assessment when compared with baseline measurements.

3. DISCUSSION

This case study examined the impact of yoga and naturopathy treatment combined in a 62-year-old woman with FD. Patients exhibited improved postprandial fullness, epigastric pain, epigastric burning sensation, and early satiety after 8 days of treatment. GSRS scores and SEQ-Dyspepsia scores reduced after the intervention, demonstrating a reduction in the severity, frequency, and intensity of dyspeptic symptoms. This is a multifactorial condition

where defects in gastric motility, visceral hypersensitivity, gastric accommodation, and gut – brain axis contribute to symptom persistence and decreased quality of life.[9] The present case report indicates that an integrated non-pharmacological approach might have a positive effect on these mechanisms.

Some of the benefits observed may be due to the physiological changes that yoga practices have on gastrointestinal function and autonomous regulation. Yoga is said to increase parasympathetic activity, decrease sympathetic activity, and improve neuroendocrine balance, which is beneficial for the digestive system and gastrointestinal health.[10] FD can be associated with autonomic dysfunction and stress responses, so the inclusion of asanas, pranayama, and relaxation may have played a role in reducing symptoms in this patient.

Psychological factors are important factors in the development and maintenance of FD symptoms. Breathing exercises and Yoga Nidra could have had an impact on the gut–brain axis via stress alleviation and emotional control. There was evidence that meditation can enhance sleep quality and psychological well-being among FD patients from previous research.[11] Similarly, mindfulness-based interventions have been identified as helpful tools to alleviate distress related to symptoms and enhance coping skills in individuals impacted by DDD.[12]

Other naturopathic therapies used in this case, such as a cold abdominal douche and dietary changes, may have contributed to improved digestive function. Hydrotherapy has traditionally been thought to improve abdominal circulation and autonomic balance, while water-based interventions may also influence blood flow, relaxation, and autonomic tone through hydrostatic and thermal mechanisms.[13] Dietary control may decrease meal-related aggravation of symptoms and reduce gastric irritation. Improvements in both autonomic function and psychological well-being have been reported in patients with gastrointestinal disorders following integrated Yoga and Naturopathy interventions.[14] Moreover, Yoga and Naturopathy emphasize the restoration of physiological balance through natural healing processes and lifestyle regulation. [15,16]

The results of this case are in line with the evidence that supports complementary and integrative therapies in the management of FD. This is particularly because traditional treatments have limited effectiveness in alleviating symptoms and fail to fully consider the psychological factors that impact disease burden.[16] Integrative gastroenterology also sees the benefits of integrating complementary therapies into patient-centered care.[17] A combination of diet, lifestyle modification, and yoga-based interventions has been found beneficial in functional gastrointestinal disorders as well.[18] Also, complementary therapies have been used for a long time to treat gastrointestinal disorders using digestive function improvements and stress reduction.[19] Similar beneficial results have been recorded in cases with chronic diseases with gastrointestinal symptoms after the Yoga and Naturopathy interventions.[20] This report is only a single case and would not be widely applicable to the rest of the population. Further, the short duration of the intervention and absence of long-term follow-up limit the interpretation of any sustained benefits. However, the current findings indicate that the integrated Yoga and Naturopathy interventions can be useful complementary interventions in the treatment of FD, and more trials with larger controlled studies are warranted.

4. CONCLUSION

This case study illustrates the possible advantages of a combined Yoga and Naturopathy intervention in the management of FD. After 8 days of treatment, which consisted of yoga, cold abdominal douche, and dietary modification, the patient had significant improvements in gastrointestinal symptoms such as postprandial fullness, epigastric pain, epigastric burning sensation, and early satiety. The changes in GSRS and SEQ-Dyspepsia scores reflected decreases in symptom severity, frequency, and intensity, and the changes in electrogastrographic parameters, in gastric function. The observed outcomes can be attributed to the integrated intervention, which provides a combination of autonomic regulation, stress reduction, digestive stimulation, and lifestyle modification. Whilst the results are positive, they only apply to one case and cannot be disclosed to a larger group

of people. Longer-term follow-up and larger, well-designed clinical studies are needed to confirm the effectiveness of Yoga and Naturopathy as complementary methods in the management of FD.

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