Case Report

Lifestyle Medicine-Based Naturopathic Management of Generalized Anxiety Disorder: A Case Report

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ABSTRACT

Generalized Anxiety Disorder (GAD) is a prevalent mental health condition associated with significant psychological and physiological disturbances. Integrative approaches, such as Yoga and Naturopathy (YN), may offer beneficial outcomes in its management. This study aimed to evaluate the effect of a 16-day YN intervention on anxiety and overall well-being in a patient with GAD. A 32-year-old male with a two-year history of GAD presented with symptoms including weight gain, low mood, hyperphagia, and psychological distress. Baseline assessment using the GAD-7 scale indicated severe anxiety. The patient underwent a structured 16-day YN regimen comprising hydrotherapy, acupuncture, mud therapy, diet therapy, and therapeutic yoga practices. Outcome measures included blood pressure, body weight, and psychological status assessed using the GAD-7 scale. Following the intervention, the patient demonstrated a reduction in body weight and improvement in blood pressure. A significant decrease in the GAD-7 score was observed, along with enhanced activity levels and overall well-being. These findings suggest that YN interventions may be effective in reducing anxiety and improving the quality of life in individuals with GAD. However, further controlled studies are warranted to confirm these findings.

Key words: Generalized Anxiety Disorder, Yoga, Naturopathy, Integrative Medicine, Hydrotherapy, Case report.

Feelings of threat, restlessness, irritability, sleep disturbance, and tension, and symptoms such as palpitations, dry mouth, and sweating characterize generalized anxiety disorder (GAD). These symptoms are recognized as part of the anxiety syndrome rather than independent complaints [1]. GAD is one of the most common mental disorders. Up to 20% of adults are affected by anxiety disorders each year worldwide. Incidence of GAD increased from 0.8% in 2012 to 2.4% in 2022. One-year prevalence of GAD increased from 2.1% in 2012 to 7.4% in 2022 [2]. In India, the current weighted prevalence of GAD is 0.57%. The male gender and higher education groups have significantly lower odds of current GAD. Urban metro and the married group have significantly higher odds of current GAD. The most common comorbid psychiatric disorders are depression (15.8%), followed by agoraphobia (9.4%) [3]. Diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) include the following: Excessive anxiety and worry for at least 6 months, Difficulty controlling the worrying. Anxiety is associated with 3 or more of the following symptoms for at least 6 months, such as restlessness, feeling keyed up or on edge, being easily fatigued, difficulty concentrating or mind going blank, irritability, muscle tension, sleep disturbance, and irritability. Anxiety results in significant distress or impairment in social and occupational areas. The Yoga and Naturopathy (YN) system of medicine works on physical, mental, and spiritual planes of being [4]. YN gives a Holistic approach to overcoming GAD. So, the present study aimed to assess the effect of YN interventions on anxiety [5].

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CASE PRESENTATION

A 32-year-old male was admitted to the inpatient department of the International Institute of Yoga and Naturopathy Medical Sciences, Chengalpattu, with a 2-year history of GAD. The patient reported associated symptoms, including weight gain, hair loss, persistent low mood, hyperphagia characterized by binge eating behavior, and significant psychological distress related to recent family issues. He also reported a history of problematic pornography use since 2024. There was no history

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of prior surgeries or medication use. Following a comprehensive physical and systemic examination, the severity of anxiety was assessed using the GAD-7 questionnaire, which revealed a high pre-treatment score. The patient was managed with a combination of YN interventions alongside a prescribed naturopathic raw diet regimen.

INTERVENSION

The patient underwent a comprehensive 16-day treatment of YN interventions, administered daily using a holistic and integrative approach. The treatment protocol included a combination of Hydrotherapy, Acupuncture, Mud Therapy, Diet Therapy, and Therapeutic Yoga, each tailored to address the patient's clinical condition and promote overall well-being. The overall treatment plan aimed at supporting healing, improving metabolism, enhancing tissue repair, promoting mental calmness, and improving overall quality of life. All interventions were administered under professional supervision, ensuring safety, consistency, and adherence throughout the treatment duration. The detailed treatment protocol is presented in Table 1.

Table 1: Intervention protocol

Therapy Modality	Intervention Details	Duration/Frequency
Hydrotherapy	Cold immersion bath	25 min; 10 min (daily)
Mud Therapy	Mud pack (eyes)	25 min (daily)
Acupuncture	HT-7, SP-6, SJ-13, DU-20, LU-9	Alternative days
Yoga Therapy	Tadasana, Vrikshasana, Vipareethakarani, ankle stretching, sukshma vyayama	30–40 min daily
Breathing Practices	Bhramari Pranayama; A' kara chanting (10 repetitions)	Daily

ASSESSMENT TOOL

A range of standardized clinical and psychological assessment tools was employed to evaluate the patient's progress before and after the intervention. Physiological parameters included blood pressure and body weight, which were measured using standard clinical procedures to monitor cardiovascular status and changes in overall physical health. Psychological outcomes were assessed using validated scales. The GAD-7 scale was used to evaluate the severity of anxiety symptoms. This self-reported questionnaire consists of seven items, with scores ranging from 0 to 21. The severity of anxiety is categorized based on the total score as follows**:** 0–4 (minimal anxiety), 5–9 (mild anxiety), 10–14 (moderate anxiety), and 15–21 (severe anxiety) [6].

All assessments were conducted at baseline (pre-intervention) and after completion of the 16-day intervention (post-intervention) to determine the effectiveness of the treatment. The comparative pre- and post-intervention outcomes are summarized in Table 2.

RESULT

In the YN intervention, notable improvements were observed in the patient's overall health and well-being. The patient exhibited enhanced psychological functioning, with self-reported increases in activity levels and a greater sense of freshness compared to baseline. Objective measures also indicated positive changes, including a reduction in body weight and improvement in blood pressure parameters. Furthermore, a significant decrease in the GAD-7 score was observed, as shown in the graphical representation (Figure 1), reflecting reduced anxiety levels. Overall, these findings suggest that the intervention contributed to both physical and psychological improvements. The comparative pre- and post-intervention outcomes are summarized in Table 2.

Table 2: Results

Parameter	Pre-Intervention	Post-Intervention
GAD-7 Score	19 (Severe)	3 (Minimal)
Blood Pressure	125/82 mmHg	112/74 mmHg
Body Weight	93 kg	89 kg

DISCUSSION

The present case study demonstrates that a 16-day integrative YN intervention was associated with clinically meaningful improvements in both physiological and psychological outcomes in a patient with GAD. The intervention resulted in a marked reduction in anxiety severity, accompanied by improvements in body weight, blood pressure, activity levels, and overall well-being. These findings suggest that a multimodal approach combining hydrotherapy, mud therapy, acupuncture, diet therapy, and therapeutic yoga may provide complementary benefits in the management of GAD by simultaneously addressing psychological symptoms and physiological dysregulation. Hydrotherapy, particularly cold immersion therapy, has been reported to stimulate the release of neurotransmitters such as norepinephrine, dopamine, serotonin, β-endorphin, and cortisol, which contribute to stress adaptation, mood regulation, and emotional resilience [7].

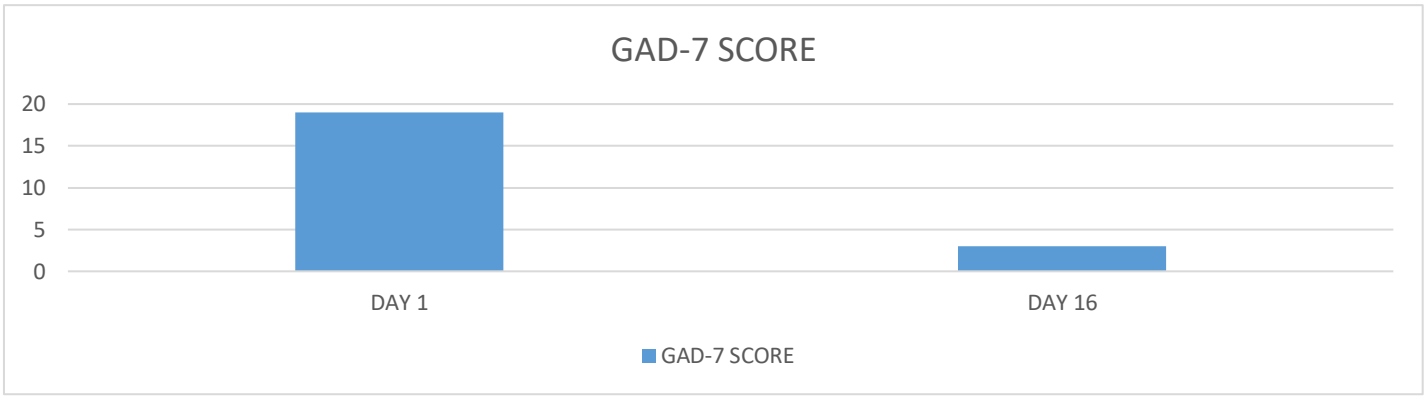


Figure 1: GAD-7 scores

Yoga has been shown to reduce anxiety by improving autonomic nervous system regulation, enhancing parasympathetic activity, and increasing cardiac vagal tone through breathing exercises, relaxation techniques, meditation, and physical postures. Since individuals with GAD often exhibit reduced autonomic flexibility and diminished vagal activity, yoga practices may alleviate anxiety by restoring autonomic balance [8]. Acupuncture may further enhance therapeutic outcomes by modulating autonomic function and central neurotransmitter activity. In the present case, the protocol included LU-9 and PC-6 to regulate the Chong meridian, DU-20 for calming the mind, SP-6 for autonomic regulation, and auricular points including Shen Men, Sympathetic, Heart, and San Jiao to promote parasympathetic activation and reduce psychological stress [9]. Furthermore, balneotherapy and pelotherapy have been reported to promote relaxation, reduce stress, and improve psychological well-being through their thermal, mechanical, and neuroendocrine effects. Collectively, these mechanisms may explain the significant clinical improvements observed in the present case [10]. Through Naturopathic Medicine, such as yoga, diet regulation, hydrotherapy, and mind–body practices, it aims to reduce stress, restore autonomic balance, and enhance overall mental well-being.

The present study is limited by its single-case design and short intervention duration. Future research should include adequately powered randomized controlled trials with larger sample sizes and neurophysiological assessments to further establish the efficacy and underlying mechanisms of YN in the management of GAD.

CONCLUSION

The present case study suggests that integrative YN interventions may improve both psychological and physiological outcomes in patients with GAD, as evidenced by reduced GAD-7 scores, improved vital parameters, and enhanced overall well-being. However, larger controlled studies with longer follow-up are required to confirm these findings and establish their long-term effectiveness.

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