

## Effect of Integrative Yoga and Naturopathy-based Intervention on Depressive symptoms among middle-aged women: A Case Report

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### ABSTRACT:

Depression is one of the most prevalent mental illnesses, with around 25% of women having experienced at least one depressive episode during their lifetime. In the present study, a 38-year-old woman with chief complaints of a sad mood, poor concentration, feelings of excessive guilt, and decreased interest in household activities. She was diagnosed with depressive disorders in the year 2021, and she was recommended to follow conventional medications. However, a few years later, during her relapse phase, she was referred to be admitted to JSS Nature Cure & Yoga Hospital with a specific protocol at the residential facility between May and June 2024. An integrative Yoga and Naturopathy (Y&N) treatment was administered for about three weeks, which included manipulative therapy, acupuncture, hydrotherapy, mud therapy, diet therapy, yoga therapy, and mind-body interventions. Results showed a better reduction in depression, and she has gained confidence in her social interactions. Patients reported improved quality of life (QoL) and mental status with no side effects. The results of this study indicate clinical significance for depression, and it suggests that integrative Y&N-based intervention can be a convenient strategy for depression. However, further studies are required to validate this effect.

**KEYWORDS:** Complementary and alternative medicine, Depression, Integrative, Naturopathy, Yoga.

Received: 08.10.2024    Revised: 05.12.2024    Accepted: 15.12.2024    Published: 20.12.2024



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## INTRODUCTION:

Depression is a more prevalent mental disorder. It embroils a loss of pleasure or interest in activities for long periods. Which impacts all aspects of life, including relationships with family, friends, and community. It affects anyone regardless of age, gender, race or ethnicity, income, culture, or education. Research suggests that genetic, biological, environmental, and psychological factors play an important role in the manifestation of this disorder. People who have lived through abuse, severe losses, or other stressful events are more likely to develop depression. <sup>[1]</sup>An estimated 3.8% of the population experiences depression. Approximately 280 million people in the world have depression, which includes 5% of adults; it is about 50% more common among women than among men. Although depression can be a devastating illness, it often responds to treatment. <sup>[2]</sup>Despite the effect of pharmacologic treatment of depression in terms of relapse, there is still an unmet demand for complete symptomatic and functional recovery. Even After completing extensive antidepressant medication and still experiencing difficulties in everyday life, some people resort to complementary and alternative medicine. <sup>[3]</sup> Recently, integrative psychiatry has been selectively incorporating components of conventional and alternative medicine into practice. Alternative approaches, including mindfulness, yoga, meditation, faith, and nutrition, can be incorporated into a comprehensive treatment plan. Yoga is an especially effective active mindfulness practice. This ancient technique is notably effective in improving one's well-being and emotional regulation. The practice of yoga and mindfulness can help to improve alertness and positive emotions while decreasing negative feelings of aggression,

depression, and anxiety. <sup>[4]</sup> The rationale of this case study was to focus on the effectiveness of yoga and Naturopathy interventions in the management of depressive illness. Adopting an integrative Y&N-based intervention can reduce depression, stress, and anxiety levels, which can improve the overall mental health of the women.

## CASE REPORT:

A 38-year-old married woman, from low socioeconomic status and educated up to Bachelor of Arts (BA), presented with chief complaints of a sad mood, poor concentration, feelings of excessive guilt or low self-worth, withdrawn behaviour, suicidal ideas, decreased interest in activities, and feeling tired or low in energy and lethargic associated with disturbed sleep, and poor appetite and anxiety about herself and her ruminations about the future of her family, which led to a depressive episode without somatic symptoms. She was diagnosed with depression in 2021 and advised to take 20 mg of fluoxetine and 5 mg of olanzapine daily. Later, after her relapse, she received treatment at the behavioural medicine unit. However, several years later, she again presented with complaints of reduced interest in work, easy fatigability, lack of motivation to carry out household work, and frequent headaches. She was referred to have an alternative treatment for the management of these residual symptoms. The patient came to our JSS Nature Cure & Yoga Hospital, Coimbatore, TN. After explaining the detailed procedures of Y & N treatments, informed written consent was obtained from the patients. The timeline of the case is depicted in Table 1.

## CLINICAL FINDINGS:

A detailed case history was taken when she was admitted to the hospital. The height of the patient was found to be 150 cm, her weight was 65.3 kg, and her body mass index (BMI) was calculated to be 29 kg/m<sup>2</sup>. Her resting blood pressure was found to be 100/66 mmHg, and her pulse rate was 82 beats/min. She had complaints of a sad mood, poor concentration, feelings of excessive guilt, withdrawn behavior, and decreased interest in activities. On examination, she had no history of metabolic diseases. This patient was an established case of depression. The family history of the patient was found to be non-significant. Before admission, she was taking oral medication of tab. Fluoxetine, 20 mg, BD (2 years), and tab. Olanzapine, 5 mg. BD (2 years), not on a regular basis. During her admission, she was not under any of the medication.

#### **THERAPEUTIC INTERVENTION:**

The patient underwent three weeks of Y&N treatments in our hospital's inpatient department. Throughout the hospital stay, the yoga and naturopathy physician meticulously planned the daily treatment protocol. This session covers important Naturopathy therapies such as manipulative methods, acupuncture, hydrotherapy, clay therapy, diet therapy, and therapeutic yoga sessions, including mind-body interventions. Furthermore, the patient was asked to record and report any adverse effects they experienced during the research period. The details of the intervention are provided in Tables 2a and 2b.

#### **OUTCOME MEASURES:**

**Stress:** It was measured using the perceived stress scale (PSS). A 10-item questionnaire is a measure of the degree to which situations in one's life are appraised as stressful.<sup>[5]</sup>

**Depression:** The assessment (CESD-10) was conducted using the 10-item Centre for Epidemiological Studies Depressive Symptoms Scale.<sup>[6]</sup>

**Severity of depressive symptoms:** The Hamilton Rating Scale is designed to measure the severity of depressive symptoms,<sup>[7]</sup> to provide an assay of depressive symptom severity by the Montgomery-Asberg Depression Rating Scale (MADRS), which is widely used.<sup>[8]</sup>

**Depression Anxiety and Stress Scale:** The DASS-21 is a self-report questionnaire consisting of 21 items, 7 items per subscale: depression, anxiety, and stress.<sup>[9]</sup> The Patient Health Questionnaire-9 (PHQ-9) is a self-rating scale for screening and assessing depression.<sup>[10]</sup>

**Depressive symptoms:** The Beck Depression Inventory (BDI) is a 21-item, self-rated scale that evaluates key symptoms of depression.<sup>[11]</sup>

**Quality of Sleep (QoS):** It was assessed using the Pittsburgh sleep quality index (PSQI).<sup>[12]</sup>

**Psychological Distress:** The 10-item Kessler Psychological Distress Scale (K-10) is a widely applied short screening scale to monitor prevalence and trends in non-specific psychological distress.<sup>[13]</sup>

**Table- 1: Timeline of the case:**

<b>Health event</b>	<b>Time</b>
Diagnosis of Depression	2021
Visited to Specialty clinic for conventional management	2022

Relapse	Late 2023
Admitted to JSS Nature cure and Yoga hospital	May-24
Post-intervention follow-up suggested overall improvement in depressive symptoms and no history of relapse.	Aug-24

**Table-2a: Details of the Naturopathy intervention:**

Name of the therapy	Name of the specific treatment	Duration	Frequency in 21 days
Hydrotherapy	Neutral water (92-95 °F) spinal bath	20 min	7
	Cold water (55-65 °F) spinal bath	20 min	3
	Cold water (55-65 °F) Hip bath	20 min	2
	Cold water (55-65 °F) spinal Spray	15 min	7
	Neutral water (92-95 °F) Immersion bath	20 min	2
	Hot water (104-122 °F) Foot and Arm bath	10 min	5
Mud therapy	Direct mud application to abdomen	20 min	6
	Mudpack to abdomen and eyes	20 min	15
Massage	Full body massage	60 Min	3
	Massage to spine	20 min	7
	Dry head massage	10 min	7
Reflexology	Reflexology to palms and soles	15 Min	7
Acupuncture	Needling at LR3, SP6, ST36, LI4, P6, BL18, GB20, and GV20	20 Min	15
	Acupressure over Back-Shu points	15 Min	7

LR- Liver; SP-Spleen; ST-Stomach; LI-Large intestine; P- Pericardium; BL-Bladder; GB-Gall bladder; GV-Governing vessel

**Table-2b: Details of the Yoga intervention:**

Name of the Practices	Details	Duration
<i>Shat Kriya</i>	<i>Jala Neti, Vamana Dhauti</i>	On alternate days
Loosening practices	Joint loosening practices for hand, leg, neck and trunk	5 min
<i>Surya namaskar</i>	12 counts (3 rounds)	5 min
Breathing practices	hand stretch breathing, <i>Salabhasana</i> Breathing, tiger breathing, cat breathing	10 min
<i>Asana</i> practices	<i>Tadasana, Padhabastasana,</i>	20 min

	<i>Ardha chakrasana, Trikonasana, Paravatasana, Janusirasasana,</i>	
<i>Pranayama</i>	<i>Kapalabhati (60 strokes/min for -2 min), Surya anuloma viloma (9 rounds -1 min) Bhastrika pranayama (9 rounds each -3 min) Nadishodhana (9 rounds -2 min) Bhrumari (9 rounds -2 min)</i>	10 min
Relaxation	Deep Relaxation Technique (DRT)	10 min
<b>Total Duration</b>		<b>60 min</b>
Meditation	Cyclic Meditation	30 min/session, Sessions on alternate days

**Table-3: Baseline and post-test assessments of the study subject:**

Parameters	Pre data	Post data	IP (Change %)
Perceived stress scale (PSS)	26 (Moderate stress)	13↓	50%
Center for Epidemiological Studies Depressive Symptoms Scale (CESD-10)	14 (Depressed)	9↓	35%
The Hamilton Depression Rating Scale (HDRS)	21 (Moderate severity)	14↓	33%
Montgomery–Asberg Depression Rating Scale (MADRS)	12	6↓	50%
Depression Anxiety and Stress Scale (DASS)-21	Depression:14 (Moderate) Anxiety:8(Mild) Stress:16 (Mild)	Depression:10↓ Anxiety:7↓ Stress:12↓	Depression:28.5% Anxiety:12.5% Stress:25%
The Patient Health Questionnaire-9 (PHQ-9)	13 (Moderate depression)	7↓	46%
Pittsburg sleep quality index (PSQI)	12	6↓	50%
Beck Depression Inventory (BDI)	23 (Moderate depression)	15↓	35%
Kessler Psychological Distress Scale (K-10)	24 (Mild mental disorder)	17↓	29%

## RESULTS AND DISCUSSION:

As seen in Table 3, both subjective and objective measures of pre- to post-intervention were used to assess the levels of depression. While results showed a better reduction in PSS score from 26 to 13, it indicates that stress level has reduced by 50%.<sup>[5]</sup> Likewise, a reduction in the CESD-10 and HDRS scores ranges from 14 to 9 and 21 to 14 indicating that depression level has reduced 35%<sup>[6]</sup> and 33%<sup>[7]</sup>, respectively. MADRS scores range from 12 to 6 indicates a significant reduction of 50%<sup>[8]</sup>, and results of the DASS scale show a range of depression (14 to 10), anxiety (8 to 7), and stress (16 to 12) scores, respectively. It indicates that the patient's depression has reduced from the extremely moderate to mild category, and anxiety and stress scores significantly reduced from the mild to normal range<sup>[9]</sup>; PHQ-9 scores range from 13 to 7, indicating better progress of 46% improvement<sup>[10]</sup> PSQI from 12 to 6 indicates a notable improvement of 50%. Also, the patient reported improvement in quality of life in the physical, psychological, and environmental domains<sup>[12]</sup> Further, the BDI score dropped drastically from 23 to 15, indicating marginal changes of 35%<sup>[11]</sup> The K-10 score ranges from 24 to 17, indicating 29% improvement in mental status<sup>[13]</sup>

A previous study demonstrated that natural medicine might help to reduce depression, anxiety, and stress.<sup>[14]</sup> Yoga may have different biological mechanisms that act on both antidepressant and brain-derived neurotrophic factor (BDNF) elevation pathways, and stress reduction mechanisms, such as quieting the hypothalamic-pituitary-adrenal (HPA) axis, may be particularly important to the effect of yoga in reducing depression.<sup>[15]</sup> The main purpose of massage

is to induce the release of physical and emotional tension.<sup>[16]</sup> The study of integrative healing systems such as naturopathy may provide advantages in the treatment of non-severe forms of depression and anxiety over conventional pharmaceutical drugs, which appear to have at best moderate efficacy in mild to moderate depression.<sup>[4]</sup>

Present study findings indicated that massage therapies were effective in improving sleep and reducing symptoms like stress and anxiety, and yoga therapy influences the emotional dimensions of patients, which helps to regulate their mood and behavioral patterns. Along with hydrotherapy, mud therapies were found to be useful methods to promote the health and well-being of patients. and a mindfulness-based approach was effective on residual symptoms and remission of depression.

Results of integrated yoga & naturopathy on depressive disorder have met the criterion for clinical significance. The strength of these results is reflected by a strong clinical response, with a marked reduction of symptoms occurring on the psychiatric scales used and no adverse effects being reported by the patient throughout the study period. Hence, randomized controlled trials are required with a large sample size and advanced techniques to validate our results.

## CONCLUSION:

This case report demonstrates that 21 days of an integrative approach of yoga and naturopathy treatments showed improvement in depressive disorder. Furthermore, she has not reported any relapse of symptoms during her follow-up. This single-case report finding suggests that integrative yoga and naturopathy combined intervention could be a promising approach

for depression patients. However, further research is required to validate this effect.

**Patient perspective:**

The patient self-reported feeling of wellness during and following the 21-day inpatient treatments. She found the therapies easy to adapt and follow. She was able to cope with all sorts of activities without any difficulties, and she has expressed an increased level of confidence in her household activities and social interactions.

**Limitation of the study:**

We used a short study duration and a limited follow-up period. We also did not analyze the other biomarkers to determine the possible mechanisms underlying the observed effects. Further studies with a larger sample size, longer duration, and more objective variables are therefore recommended for a better understanding of the effects and possible mechanisms of yoga and Naturopathy treatment.

**Informed Consent:**

An informed written consent was obtained from the patient for reporting this case without disclosing the personal identity of patient.

**Conflict of interest:** The author declares that there is no conflict of interest.

**Guarantor:** The corresponding author is the guarantor of this article and its contents.

**Source of support:** None

**How to cite this article:**

Thiruchitrampalam M, Srimathi R, Dhilip V.R. Effect of Integrative Yoga and Naturopathy-based Intervention on Depressive symptoms among middle-aged

women: A Case Report. *Int. J. AYUSH CaRe.* 2024;8(4): 499-506.

<https://doi.org/10.70805/ija-care.v8i4.638>

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