

Evaluation of Preksha Meditation on Comorbid Subclinical Anxiety Depression Using DASS as an Objective Parameter

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Abstract: *This study evaluates the impact of Preksha Meditation on Mixed Anxiety Depressive Disorder (MADD) using the Depression Anxiety Stress Scale-42 (DASS-42). The study was conducted as a parallel arm interventional open controlled trial at the Department of Kayachikitsa, Faculty of Ayurveda and Department of Psychiatry, Institute of Medical Sciences, Banaras Hindu University. A total of 50 participants diagnosed with MADD were randomly divided into two groups: one receiving Preksha Meditation therapy along with standard medication and the other receiving only standard medication. Result shows significant change in the experimental group as Preksha Meditation positively decreased the anxiety and depression level of subjects in comparison to control group.*

Keywords: MADD, Anxiety, Depression, Non-Pharmacological Therapy, Mental Health

1. Introduction

Mixed Anxiety Depressive Disorder (MADD) is characterized by symptoms of both anxiety and depression, neither of which dominate enough to justify a singular diagnosis. Recognized in the WHO's International Classification of Diseases (ICD-10) under code F41.2, MADD arises due to various biological, psychological, and environmental factors (World Health Organization, 2016). Current pharmacological treatments pose risks of side effects and dependency, necessitating the exploration of holistic interventions such as meditation.

Historically, anxiety and depression were considered part of the same spectrum (Moller et al., 2016). Neurobiological research supports a shared "negative affect" basis for both disorders (Clark & Watson, 1991; Moller et al., 2016). MADD affects up to 9% of the population and has similar impact on quality of life as major psychiatric conditions (Das-Munshi et al., 2008). About half of MADD patients remit within a year; others develop syndromal anxiety or depression (Hettema et al., 2006; Barkow et al., 2004). MADD is underdiagnosed due to vague criteria and physical symptom presentation in primary care (Moller et al., 2016). SSRIs and CBT have shown efficacy in MADD cases (Bandelow et al., 2015; Moller et al., 2016).

Mixed Anxiety and Depressive Disorder (MADD) is marked by a blend of symptoms such as low mood, tiredness, restlessness, and excessive worry. In this condition, neither anxiety nor depression is clearly dominant, which can make medical treatment more complicated and less precise.

Yoga offers a holistic, mind-body approach that helps manage stress by influencing key systems in the body, including the hypothalamic-pituitary-adrenal (HPA) axis and the vagus nerve. According to Streeter and colleagues (2012), practicing yoga increases activity in the parasympathetic nervous system and boosts levels of GABA, a calming brain chemical often found to be low in people with anxiety and depression. These changes can lead

to better mood regulation, lower anxiety, and improved sleep all important in managing MADD effectively.

Preksha Meditation, developed by Acharya Mahaprajna in 1978, is a mindfulness-based technique comprising of eight components viz. Kayotsarg (relaxation), Antaryatra (internal trip), Shwas Preksha (breath perception), Shareer Preksha (body perception), Chaitanya Kendra Preksha (psychic centers perception), Leshya Dhyana (psychic colors perception), Anupreksha (contemplation) and Bhavana (positive feelings). This study assesses the effect of Preksha Meditation in managing MADD.

A study involving elderly participants assessed over a four-month PM program showed clear improvements across several domains of mental health. Using the WHOQOL-BREF scale and the Hospital Anxiety and Depression Scale (HADS), results indicated a 29.3% improvement in psychological health, a 17.2% reduction in stress levels, and reduced symptoms of both depression and anxiety in many participants.

A neuropsychological perspective shows, mindfulness-based practices like Preksha Meditation are supported by literature as effective and non-pharmacological interventions for reducing anxiety and depression. For instance, Goyal et al. (2014) conducted a comprehensive meta-analysis that found significant reductions in psychological stress across various meditation programs. Similarly, Ravindran and da Silva (2013) showed that mindfulness meditation can serve as a complementary treatment for anxiety and mood disorders, supporting the findings related to Preksha Meditation's efficacy.

2. Methodology

2.1 Aims & Objective

To evaluate the effect of the Preksha Meditation in the management of MADD.

Volume 14 Issue 5, May 2025

Fully Refereed | Open Access | Double Blind Peer Reviewed Journal

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2.2 Sample size Calculation

Sample calculation was done on the basis of formulae for 2 independent proportions by referring from previous study.

$$n = (Z_{1-\alpha/2} + Z_{1-\beta})^2 (p_1q_1 + p_2q_2) / (p_1 - p_2)^2$$

$$\left\{ \begin{array}{l} Z_{1-\beta} = 0.842 \text{ at power } 80\% \\ n = 37 \text{ in each group.} \end{array} \right.$$

Where, $Z_{1-\alpha/2} = 1.96$ at 5%

So, the sample on the above formula is 50 including 10% loss.

2.3 Null Hypothesis

Preksha Meditation does not significantly decrease the signs and symptoms of MADD.

2.4 Dependent Variable

- 1) Anxiety
- 2) Depression

2.5 Independent Variable

Preksha Meditation Therapy

2.6. Selection of Patients

The patients were recruited from Manas Roga (Neuro - Psychiatric & Psychosomatic Medicine Section), Deptt. Of Kayachikitsa and Department of Psychiatry, Sir Sundar Lal Hospital, IMS, BHU, Varanasi.

2.7 Inclusion Criteria

- 1) Age range between 20-60 years belonging to either sex.
- 2) Patients fulfilling the diagnostic criteria of MADD
- 3) Patients giving the informed consent to participate in the study.

2.7. Exclusion Criteria

- 1) Patients who were taking modern medicine drugs for the Anxiety & Depression.
- 2) Patients with prior history of Medical diseases causing psychological presentation.

2.8 Study Groups and sample size (N) of Subjects

The selected patients were randomly divided into 2 groups based on computer generated randomization as follows: -

Group I (N=25): Patients of this group were given Preksha Meditation therapy as intervention along with medication as in group II.

Group II (N=25): The subjects of this group were only given medication -Saraswata churna 1.5gm twice daily along with Madhu 10ml and ghrit 5ml after meals.

2.9 Intervention Schedule

Preksha Meditation session consisted of practice of 30 minutes daily for 30 days.

2.10 Protocol of Preksha Meditation (PM) in the present clinical trial (kumari et al.,2023):

- 1) **Preparatory Step (5 minutes):** Dhyanasan, Veet-raga Mudra, Dhyan Mudra, Maha -Pran Dwani, Sankalp.
- 2) **Kayotsarg (5 minutes):** Deep relaxation.
- 3) **Antaryatra (5 minutes):** Internal journey.
- 4) **Shwas Preksha (10 minutes):** Deep breathing and alternative breathing.
- 5) **Jyoti Kendra Preksha (4 minutes):** Focus on psychic energy centre.
- 6) **Completion Step (1 minute).**

2.11. Assessment Parameters

The following Assessment Parameters were used- DASS-42 Scale

DASS -42 Scale:

Depression Anxiety Stress Scale-42 was developed by Lovibond. & Lovibond in 1995, and in 2013 it was translated and validated in Hindi by Bhupinder Singh and Amool R Singh with overall reliability of the scale is .83 (Lovibond & Lovibond, 1995; Singh & Singh, 2013). The Depression Anxiety Stress scale is a 42 item questionnaire which is a self report scales intended to quantify the negative emotional condition of depression, anxiety and stress. 14-14 items have been taken in each of the 3 scales separately. The scale is further subdivided into 2-5 subscales measuring similar content. The Depression scale has subscales assessing dysphoria, hopelessness, devaluation of life, self-deprecation, and lack of interest/involvement. The Anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety and subjective experience of anxious affect. The Stress scale's subscales highlight levels of non-chronic arousal through difficulty relaxing, nervous arousal and being easily upset/agitated, irritable/over-reactive and impatient.

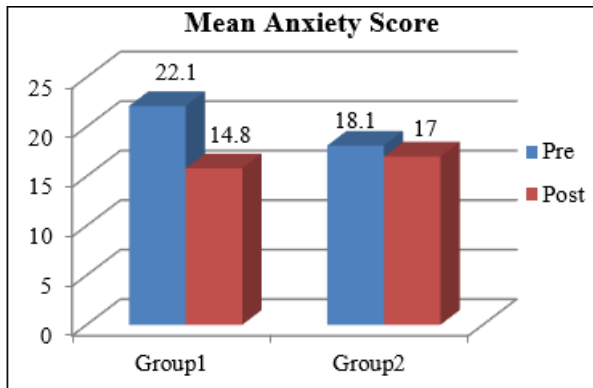
3. Results

3.1 Changes in Anxiety Score:

The Mean Anxiety Score was 22.10 ± 5.486 initially in patients of Intervention Group 1, which reduced to 14.80 ± 3.490 after intervention at the end of trial and this change of the mean was highly significant statistically ($t=20.391$, $p=0.000$). In Group 2 receiving only medication Saraswata Churna, initial Mean Anxiety Score was 18.10 ± 3.725 which reduced to 17.00 ± 3.432 after intervention, and the change of the mean difference was also highly significant ($t=9.683$, $p=0.000$). The intergroup comparison was statistically significant after treatment. Mean anxiety score after treatment was lower in experimental group as compared to control group.

Table showing changes in Mean Anxiety Score in the two groups of the patients of MADD.

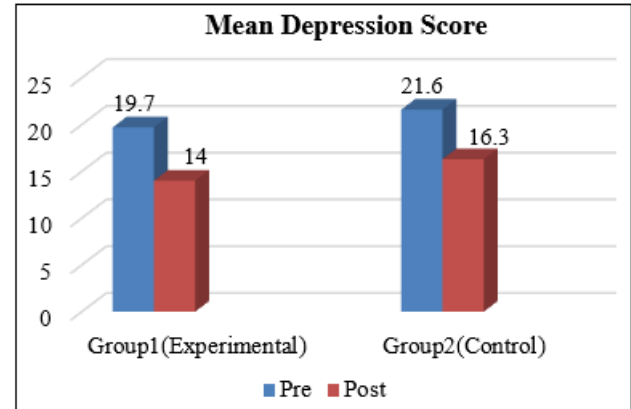
Group	Anxiety Score Mean $\pm$ SD		Within the group Comparison paired t test
	Pre	Post	
Group1(Experimental)	22.10 $\pm$ 5.486	14.80 $\pm$ 3.490	7.300 $\pm$ 1.790 t=20.391 p=0.000
Group2(Control)	18.10 $\pm$ 3.725	17.00 $\pm$ 3.432	1.100 $\pm$ 0.568 t=9.683 p=0.000
Between the group comparison unpaired t test	t=1.907 p=0.073	t=2.2473 p=0.0293	

**Figure 1: Mean Anxiety Score****3.2 Changes in Depression Score:**

In the patients of Experimental Group 1, the initial Mean Depression Score was 19.70 ± 3.592 , which reduced to 14.00 ± 3.155 after intervention and this change of the mean was highly significant statistically ($t=18.176$, $p=0.000$). In the control Group 2 receiving only Saraswat Churna initial Mean Depression Score was 21.60 ± 5.275 which became 16.30 ± 4.526 ($t=9.659$, $p=0.000$) after intervention, and this change of the mean difference was also significant ($t=9.659$, $p=0.000$). The intergroup comparison was statistically significant after treatment. Mean depression score after treatment was lower in experimental group as compared to control group

Table showing changes in Mean Depression Score in the two groups of the patients.

Group	Depression Score Mean $\pm$ SD		Within the group Comparison paired t test
	Pre	Post	
Group1 (Experimental)	19.70 $\pm$ 3.592	14.00 $\pm$ 3.155	5.7 $\pm$ 1.568 t=18.176 p=0.000
Group2(Control)	21.60 $\pm$ 5.275	16.30 $\pm$ 4.526	5.3 $\pm$ 2.741 t=9.659 p=0.000
Between the group comparison unpaired t test	t=1.4886 p=0.1431	t=2.0844 p=0.0425	

**Figure 2: Mean Depression Score****Anxiety Scores:**

Group 1(Experimental): Reduced from 22.10 ± 5.486 to 14.80 ± 3.490 ($p<0.0001$).

Group 2(Control): Reduced from 18.10 ± 3.725 to 17.00 ± 3.432 ($p<0.0001$).

Between-group comparison was statistically significant ($p=0.0293$).

Depression Scores:

Group 1(Experimental): Reduced from 19.70 ± 3.592 to 14.00 ± 3.155 ($p<0.0001$).

Group 2(Control): Reduced from 21.60 ± 5.275 to 16.30 ± 4.526 ($p<0.0001$).

Between-group comparison was statistically significant ($p=0.0425$).

Result shows significant change in the experimental group 1 as Preksha Meditation positively decreased the anxiety and depression level of subjects in comparison to Group 2.

4. Discussion

In the present investigation, data analysis showed that the both the group revealed improvement on Anxiety & Depression level. Intergroup analysis showed that intervention groups Preksha Meditation revealed better results than the control group. Difference between before treatment and after treatment was highly statistically significant in experimental group as well as control group. Thus, a tendency toward a greater effectiveness of the Preksha Meditation intervention has been observed. Mean decreased in depression score was observed higher in Preksha Meditation group as compare to control group.

5. Conclusion

Preksha Meditation is an effective non-pharmacological intervention for managing Mixed Anxiety Depressive Disorder (MADD). Its significant impact within 1 month practice suggests a promising role in psychiatric and psychosomatic disease management. Future studies should explore extended meditation durations for enhanced therapeutic outcomes.

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