



Research Article

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A Study of the Effect of Yoga Nidra and Bhramari Pranayama on Psychological Variables of Pregnant Women

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Abstract: This research was carried out with the objective of determining whether there was any possible relationship between the practice of yoga Nidra and Bhramari pranayama on psychological variables of pregnant women. 30 pregnant women in different trimesters were selected randomly from Hissar City, Haryana. The age limit of the subjects ranged from 23- 40 years and the selected subjects were divided into three groups. Experimental Group I underwent yoga Nidra and Group II underwent bhramari pranayama and Group III served as the control group (CG). The Anxiety, Stress, and Depression level in the subjects are measured with the help of a one-way ANCOVA method using ADSS (Anxiety Depression Stress Scale) scale (questionnaire) given by Pallavi Bhatnagar. The result shows a significant change in the practice group as Yoga Nidra and Bhramari pranayama positively decreased the Anxiety, Depression, and Stress levels of the pregnant women subjects. Both Yoga Nidra, and Bhramari pranayama group were found to have Anxiety, Depression, and Stress to the same extent when Pre-Anxiety, Depression, and Stress was taken as Covariate.

Keywords: Yoga Nidra, Bhramari pranayama, psychological variables, Pregnancy, Yoga

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INTRODUCTION

It is frequently connected with A mental illness and is characterized by a clinically substantial impairment in a person's cognition, emotional regulation, or behavior. the distress or impairment in critical areas of functioning. There are several sorts of mental illnesses. Mental illnesses are sometimes known as mental health issues. The latter is a broader term that includes mental disorders, psychosocial problems, and (other) mental states that are connected to great distress, functional impairment, or both. In general, a psychological disorder is a condition marked by distressing, debilitating, and/or abnormal thoughts, feelings, and actions. (*Mental Disorders*, n.d.) (*12.1 What Are Psychological Disorders? – Introductory Psychology*, n.d.) In 2017, 792 million individuals were expected to have a mental health problem. This represents slightly more than one in every ten individuals worldwide (10.7%). contrasts the prevalence of various illnesses in men and women. Share of men and women with the disorder (2017) 9.3% of men and 11.9% of women we can observe that in most nations, women are more likely than males to suffer from psychiatric diseases. (Dattani *et al.*, 2021) In 2019, 1 in every 8 individuals, or 970 million people worldwide, suffered from a mental condition, with anxiety and depression being the most frequent. Because of the COVID-19 epidemic, the number of individuals

suffering from anxiety and depression increased considerably in 2020. Early estimates reveal that anxiety and severe depressive disorders have increased by 26% and 28%, respectively, in just one year. (*Mental Disorders*, n.d.) According to research, India has a significant prevalence of mental health issues. According to the India State-Level Illness Burden Initiative, roughly 197.3 million Indians were affected by mental diseases in 2017, implying that one in every seven Indians was impacted by mental illnesses of varied severity. According to the study, the percentage prevalence of depression and anxiety disorders is greater in Indian women (3.9%) than in males (2.7%). (Priyadarshini *et al.*, 2023) Pregnancy is often a joyous and exciting time. However, this is not the case with all women. You may feel negative about being pregnant. You may find it more difficult than others to adjust to the changes and uncertainties that come with pregnancy. Many factors can affect how you feel during pregnancy. They include physical symptoms (for example, morning sickness), support (or lack thereof), and stressful events in your life. Mental illnesses during pregnancy are a big public health issue since they influence both the mother's and the child's health. One in five women experiences mental health issues during or after pregnancy. Life-changing events such as pregnancy, delivery, and early motherhood may be stressful for both women and their spouses. As a result, women may experience poor mental

health The most prevalent mental health issues in pregnancy are depression, stress, and anxiety. They affect around ten to fifteen of every Hundred pregnant women. (*Mental Health in Pregnancy | Royal College of Psychiatrists*, n.d.) (*Prevalence of Common Mental Disorders among Pregnant Women—Evidence from Population-Based Study in Rural Haryana, India*, n.d.) (*Launch of the WHO Guide for Integration of Perinatal Mental Health in Maternal and Child Health Services*, n.d.) In affluent nations, the reported prevalence of mental problems during pregnancy ranges from 7 to 15%. The illness burden is greatest in low and middle-income countries (LMIC), (*Prevalence of Common Mental Disorders among Pregnant Women—Evidence from Population-Based Study in Rural Haryana, India*, n.d.) According to current research, up to 20% of pregnant women suffer from mood or anxiety issues. (Health, n.d.) Over 10% of pregnant women and 13% of new mothers worldwide suffer from a mental condition, typically depression. The figure is significantly higher in underdeveloped nations, where it is 15.6% during pregnancy and 19.8% following childbirth. In severe circumstances, mothers' anguish may be so intense that they commit themselves. Also, the afflicted moms are unable to operate normally. As a result, the children's growth and development may suffer as well. Over 20% of new mothers in poor countries have clinical depression after giving birth, according to a recent meta-analysis. n.d. (Maternal Mental Health. (*Maternal Mental Health*, n.d.)) 20% of pregnant women with mental health issues will have suicidal ideation or commit acts of self-harm. (*Launch of the WHO Guide for Integration of Perinatal Mental Health in Maternal and Child Health Services*, n.d.) According to current research, in India, pregnancy depression affects between 14 and 24% of women. Researchers predicted that in 2020, the prevalence of other disorders associated with pregnancy will be 30.9% and 23%, respectively. (Priyadarshini *et al.*, 2023) Throughout the three trimesters, pregnant women are at risk of developing anxiety disorders of varied severity. Anxiety symptoms and disorders were shown to be prevalent in 22.9% and 15.2% of pregnant women worldwide, respectively. In India, the prevalence of common mental illnesses in the prenatal period is roughly 22%, and these diseases include anxiety, depression, and stress-related disorders. (Tikka *et al.*, 2021) Long-term high levels of stress can lead to health concerns such as high blood pressure and heart disease. Stress during pregnancy might raise the odds of having a preterm (born before 37 weeks of pregnancy) or a low-birthweight baby (weighing less than 5 pounds, 8 ounces). Infants who are born too young or too little are at a higher risk of developing health issues. (*Stress and Pregnancy*, n.d.) According to studies, the incidence of stress during pregnancy ranges from 55 to 78%. (Engidaw *et al.*, 2019) Yoga therapeutics is a growing field, notably in India, where it is regulated by the Ministry of Health and

Family Welfare's Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homoeopathy (AYUSH). Few research have examined the impact of integrated yoga practises on psychological and health factors, demonstrating numerous potential advantages. (Khemka *et al.*, 2011) From this present research, we can know that what is the effect of Yoga Nindra and Bhramari Pranayama on psychological variables of pregnant woman.

METHODOLOGY

To find out the effect of yoga Nidra and Bhramari pranayama practices on selected psychological variables 30 pregnant women in different trimester were selected randomly from Hissar City, Haryana. The age limit of the subjects ranged from 23- 40 years and the selected subjects were divided into three groups. Two groups (n=10) and one control group (n=10). Experimental Group I underwent yoga Nidra and Group II underwent bhramari pranayama and Group III served as the control group (CG). The experimental groups underwent training for a period of 2 weeks for 5 sessions per week. All the subjects were informed about the nature of the study and their consent was obtained to cooperate till the end of the experiment and testing period. The goals of practice may be directed towards decreasing psychological variables. In this experimental study, two experimental groups with different practices were given while one group was kept as a control group to assess the difference. The independent variable is Yoga Nidra and Bhramari pranayama and the dependent variable is anxiety, depression, and stress. The Anxiety, Stress, and Depression level in the subjects are measured with the help of a one-way ANCOVA method using ADSS (Anxiety Depression Stress Scale) scale (questionnaire) given by Pallavi Bhatnagar. There will be two weeks training practice of yoga Nidra for experimental group I and Bhramari pranayama for group II. The control group shall follow a normal routine. The total training program duration will be two weeks. Training sessions will be of 30 min daily. Five days a week. For testing the difference between Mean of different groups the level of significance was set at 0.05. The researcher has gone through various related research studies completed in this area. Based on the available literature, keeping the above logical concepts, the following hypotheses have been formulated. It is hypothesized that Ho1- There is no significant difference in adjusted mean scores of Psychological Variables (Stress, Anxiety and Depression) of yoga Nidra and Bhramari pranayama ,control Group. Ho2- There is no significant difference in Pretest and posttest mean scores of Psychological Variables (Stress, Anxiety and Depression) of Yoga Nidra Group. Ho3:- There is no significant difference in Pretest and posttest mean scores of Psychological Variables (Stress, Anxiety and Depression) of Bhramari pranayama Group.

S.NO	PRACTICE	WEEK 1/ Time/Round	WEEK 2/Time/Round
1	Opening prayer	2 min.	2 min.
2	Yoga Nidra (group 1)	25 min.	25 min.
3	Bhramari pranayama (group 2)	11 rounds	15 rounds
4	Closing prayer	2 min.	2min.
5	Total time	30 min.	30min.

RESULT

The objective was to study the effect of the yoga Nidra and Bhramari pranayama on Anxiety, stress, and depression by considering their Pre- Anxiety, Pre-stress and Pre- depression co-variates respectively. Yoga Nidra, Bhramari pranayama and Control Group were the three levels of treatment. The criterion variables were Anxiety, stress, and depression. Thus, the data were analyzed with the help of ANCOVA but before the scholar run the ANCOVA, there are several initial tests we need to conduct to ensure that we have not violated any assumptions.

Table 2- Descriptive Statistics of Anxiety of pregnant women

Groups	Pre-Test		Post-Test		Adjusted Mean
	Mean	SD	Mean	SD	
Yoga Nidra	4.10	3.63	4.40	4.32	2.918
Bhramari pranayama	2.30	1.33	5.20	2.61	5.161
Control group	4.00	2.21	2.90	3.21	4.421

Table 3- Descriptive Statistics of Stress of pregnant women

Groups	Pre-Test		Post-Test		Adjusted Mean
	Mean	SD	Mean	SD	
Yoga Nidra	5.50	3.83	5.10	3.44	3.35
Bhramari pranayama	5.20	2.85	4.00	3.52	4.04
Control group	5.80	2.69	3.40	2.75	5.10

Table 4- Descriptive Statistics of Depression of pregnant women

Groups	Pre-Test		Post-Test		Adjusted Mean
	Mean	SD	Mean	SD	
Yoga Nidra	3.0	2.63	3.70	3.26	1.87
Bhramari pranayama	1.6	1.26	3.50	3.34	3.54
Control group	1.70	2.0	1.90	1.91	3.68

Table -2,3,4 revealed that pretest mean, pretest SD, Posttest mean, Posttest SD and adjusted mean of three different groups namely: Two Experimental group and one control group. The anxiety, stress, depression pretest mean & SD of control group was 4.00±2.21,5.80±2.69,1.70±2.0. anxiety, stress, depression pretest mean & SD of Bhramari pranayama Group was 2.30±1.33,5.20±2.85,1.6±1.26 and the anxiety, stress, depression pretest mean & SD of Yoga Nidra group was 4.10±3.63,5.50±3.83,3.0±2.63 and anxiety, stress, depression posttest mean & SD of Control Group was 2.90±3.21,3.40±2.75,1.90±1.91. anxiety, stress, depression Posttest mean & SD of Bhramari pranayama group was 5.20±2.61,4.00±3.52,3.50±3.34 and anxiety, stress, depression Posttest mean & SD of Yoga Nidra group was 4.40±4.32,5.10±3.44,3.70±3.26 The anxiety, stress, depression adjusted mean of Control group was 4.421,5.10,3.68. Anxiety, stress, depression adjusted mean of Bhramari pranayama was 5.161,4.04,3.54. Anxiety, stress, depression adjusted mean of Yoga Nidra group was 2.918,3.35,1.87.

Table 5- Summary of One Way ANCOVA of Anxiety of pregnant women by taking their Pre-Anxiety as Covariates

Source of Variance	Df	SSy.x	MSSy.x	Fy.x	Sig
Treatment	2	24.73	12.369	.997	.383
Error	26	322.69	12.411		
Total	30	871.0			

Table 6- Summary of One Way ANCOVA of Stress of pregnant women by taking their Pre-Stress as Covariates

Source of Variance	Df	SSy.x	MSSy.x	Fy.x	Sig
Treatment	2	15.39	7.69	.710	.501
Error	26	281.90	10.84		
Total	30	823.0			

Table 7- Summary of One Way ANCOVA of Depression of pregnant women by taking their Pre-Depression as Covariates

Source of Variance	Df	SSy.x	MSSy.x	Fy.x	Sig
Treatment	2	19.47	9.735	1.104	.347
Error	26	229.31	8.820		
Total	30	525.0			

Table 5,6,7- Anxiety, stress, and depression of the adjusted F -value is .997,.710,1.104 which is not

significant. It indicates that there is no significant difference in adjusted mean scores of Anxiety, Stress, Depression of Yoga Nidra, Bhramari pranayama and Control Group students when their Pre- Anxiety, Stress and Depression was taken as covariate. Thus, the null hypothesis that there is no significant difference in adjusted mean scores of Anxiety, Stress and Depression of Yoga Nidra, Bhramari pranayama and Control Group students by considering their Pre- Anxiety, stress, and depression as covariate is not rejected. It may, therefore, be said that both Yoga Nidra, Bhramari pranayama group were found to have Anxiety, stress, and depression to the same extent when Pre- Anxiety, stress, and depression was taken as Covariate.

DISCUSSION OF FINDINGS

Both Yoga Nidra and Bhramari pranayama groups were found to have Anxiety, Stress, and Depression to the same extent when Pre-Anxiety, Stress, Depression was taken as covariate, this might be due to that Kumar Kamakhya (2008) investigated the study's goal is to determine (The impact of Yoga Nidra on stress and anxiety in college students) 80 students were recruited from PG Yoga courses to observe the effect, with 30 acting as the control group. Yoga Nidra reduced stress levels in both male and female individuals, resulting in a substantial shift in the practice group. Numerous more research show that Yoga Nidra has a considerable impact on both male and female anxiety levels. The present study was supported by the study conducted by (Kumar, 2008) Kim, sang-dol (2017) investigated the study's goal is to determine (The purpose of this study was to evaluate the evidence regarding the efficacy of yoga Nidra in treating psychological difficulties related with menstruation diseases) Only two studies discovered reported data in a descriptive manner. Both trials found that the yoga Nidra group saw a substantial reduction in anxiety and sadness. Although both groups in each experiment got medicine, the groups who (Novelia *et al.*, 2018) simultaneously practiced yoga Nidra saw a higher reduction in psychological disorders. The present study was supported by the study conducted by (Kim, 2017) Rajagopalan (2023) investigated the study's goal is to determine the current study supports the efficacy of Om chanting and Yoga Nidra in lowering sadness, anxiety, and stress, as well as enhancing sleep quality and autonomic functioning in hypertension patients. As a result, these treatments might be regarded as a safer kind of supplemental therapy for stress and hypertension management. The present study was supported by the study conducted by (Rajagopalan *et al.*, 2023) Singh Vikas (2022) investigated the study's goal is to determine (Effects of Virtual iRest Yoga Nidra Program on Depression, Anxiety, and Stress of Sedentary Women during the Second Outbreak of Covid-19) The outcomes of the study demonstrated

that the intervention group improved when compared to the control group. The data imply that the Virtual iRest Yoga Nidra (ViRYN) Program may be one of the most effective programs for reducing Depression, Anxiety, and Stress in sedentary women during the Covid-19 Crisis. The present study was supported by the study conducted by (Singh *et al.*, 2022) Novelia (2018) investigated the study's goal is to determine Yoga relaxation reduced anxiety levels in pregnant women in their third trimester. Pregnant women are urged to utilize yoga relaxation to reduce anxiety. The present study was supported by the study conducted by (Novelia *et al.*, 2018) Jagadeesan (2022) The current study demonstrates that the Bhr.P(Bhramari pranayama) intervention is an effective strategy for coping with depression, anxiety, and tension during COVID-19 home isolation. The data confirm the hypothesis that the Bhr.P intervention improved sleep quality and general well-being during the treatment period. As a result, it might be utilized as a supplemental and alternative treatment to control negative feelings during COVID-19 home isolation. The present study was supported by the study conducted by (Jagadeesan *et al.*, 2022) Rampalliwar (2013) investigated the study's goal is to determine (The Effect of Bhramari Pranayama on Pregnant Women Having Cardiovascular Hyper -Reactivity to Cold Pressor) With only 8 weeks of regular practice, Bhramari Pranayama lowered cardiovascular hyperreactivity to cold stress. Hypersensitivity to cold stress may be an early warning sign of pre-eclampsia. The conversion of this reaction to hypo-reactivity might be exploited to avoid pregnancy-induced hypertension. The present study was supported by the study conducted by (Rampalliwar *et al.*, 2013) Yuvarani (2020) investigated the study's goal is to determine(A study to compare the effects of aerobic exercises and yoga on depression and maternal anxiety orienting among primiparous women)This study indicated that aerobic and yoga exercise had a substantial effect on lowering symptoms of sadness and anxiety in both groups of primiparous women. The present study was supported by the study conducted by (Yuvarani *et al.*, 2020)

DISCUSSION OF HYPOTHESIS

The null hypothesis that there is no significant difference in adjusted mean scores of Anxiety of Yoga Nidra, Bhramari pranayama and Control Group students by considering their Pre -Anxiety as covariate is not rejected.

The null hypothesis that there is no significant difference in adjusted mean scores of Stresses of Yoga Nidra, Bhramari pranayama and Control Group students by considering their Pre-Stress as covariate is not rejected.

The null hypothesis that there is no significant difference in adjusted mean scores of Depression of Yoga Nidra, Bhramari pranayama and Control Group students by considering their Pre - Depression as covariate is not rejected.

CONCLUSIONS

Both Yoga Nidra, Bhramari pranayama group were found to have Anxiety to the same extent when Pre-Anxiety was taken as Covariate.

Both Yoga Nidra, Bhramari pranayama group were found to have Stress to the same extent when Pre-Stress was taken as Covariate.

Both Yoga Nidra, Bhramari pranayama group were found to have Depression to the same extent when Pre-Depression was taken as Covariate.

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