TO STUDY THE EFFECT OF YOGA ON POST-PARTUM STRESS AND DEPRESSION.

Ishita Vijay Kamat,1* Deepali N. Hande.2

1. B. P. Th. (Intern), Dr. APJ Abdul Kalam College of Physiotherapy, Loni, Dist Ahmednagar, Maharashtra, India.
2. B. P. Th., HOD, Community Physiotherapy Department, Dr. APJ Abdul Kalam College of Physiotherapy, Loni, Dist Ahmednagar, Maharashtra, India.

Received on: 17/03/19; Revised on: 21/04/19; Accepted on: 02/05/19

ABSTRACT

Post-partum stress and depression are the most common complications now-a-days observed in females who are in the child bearing phase. This usually leads to exaggeration of other problems like pain, inability to lead a healthy life-style and reduced quality of life. Hence, an intervention can be tried upon which is non-pharmacological and with few side effects. Yoga is considered to be an effective therapy for reducing the levels of such psychological issues. By using some effective Yogic parameters, such issues can be brought under proper control. The objective is to find out the effect of Yoga for controlling post-partum stress and depression. The study involved 20 participants (post-natal females). Yoga was administered pre and post-intervention and then data analysis was done using paired “t” test. The outcome measures were - Edinburgh post-natal depression scale (EPDS) and Perceived Stress Scale (PSS). The data of the present study was carefully analyzed using statistical method of paired “t” test. The result showed statistically highly significant decrease in the stress and depression levels post-distraction. T value is 14.799 and 7.980 for EPDS and PSS respectively. From the present study, we conclude that Yoga as an intervention reduces the stress and depression levels to certain extent in post-natal females.

Keywords: Yoga, Post-partum stress and depression.

1. INTRODUCTION

Postpartum Depression (PPD) is a significant public health issue.1 Post-partum depression can start soon after childbirth or as a continuation of antenatal depression and needs to be treated. Postpartum Depression usually predisposes to severe or recurrent depression, which may affect the mother-infant relationship and child growth and the developmental process. Children of mothers with Postpartum Depression have greater cognitive, behavioral and interpersonal problems compared with the children of non-depressed mothers.17 Three psychiatric disorders may arise in the postpartum period such as postpartum blues, Postpartum Depression (PPD), and postpartum psychosis.17&16

The major difference between postpartum psychosis and PPD is their symptomatology. Postpartum psychotic symptoms are more complex at onset and decrease after 90 days following delivery.22 Motherhood is marked by an array of emotions. Some emotions comprise of excitement, fear and anxiety. Although the emotions of fear and anxiety are common, they might well indicate that the mother is experiencing PPD.9

Increased stress and depression are the trends of modern lifestyle. Due to lack of effectiveness of drugs in the treatment of these aforementioned conditions, there is more proclivity now-a-days for adoption of non-pharmacological treatments.7 For example, in the original placebo-controlled clinical trials of
fluoxetine in depressed patients, sexual dysfunction was reported in 1.9% of trial participants receiving fluoxetine. Stress is a type of physical, mental or emotional factor that causes bodily or mental tension. Depression is a mental health disorder characterized by persistently depressed mood or loss of interest in activities, causing significant impairment in activities of daily living. As per indicated in the aforementioned paragraph, aggravated stress and depression are the features of modern lifestyle. It is particularly common in women of child bearing age. Child bearing age is the age where technically the woman can get pregnant and start having children when her menstruation starts.

Postpartum Depression (PPD) or postnatal (PNC) depression is a type of mood disorder associated with childbirth which can affect both sexes, but particularly common in females. PPD is a significant public health issue. Postpartum stress is mainly referred to as ‘Postpartum stress Syndrome’. This phenomenon falls in the middle of the two classical conditions- “Baby blues” aka. shallow form of stress and the relatively severe “Postpartum Depression” It is characterized by feelings of self-doubt coupled with a deep desire to be a perfect mother. Hung (2001) identified “postnatal stress as a restrictive force, triggered by the commonly called post-pregnancy stressors.” According to the epidemiological survey conducted in America, approximately 1 in 5 women will experience PNC depression in the postpartum period. As per noted in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV), an episode of depression is observed to have postpartum onset if it begins within four weeks after delivery. PPD is also observed in males. The peak age of onset is during the reproductive years. It has been shown to have detrimental effects on women’s health. They have a negative effect on marital relationships. According to a study conducted on PNC depression, 22% of the females of the total sample size suffered from PNC Blues. Postpartum stress syndrome usually lasts for 3 weeks postpartum often faced by 1 in 5 new mothers. The World Health Organization has identified depression as the fourth leading cause of burden among all diseases, and the leading cause of years lived with disability as of 2018.

Pharmacological therapy is often recommended for women with severe Postpartum Depression. E.g.- Some research results indicate that sertraline is a highly efficacious and well-tolerated treatment for women with Postpartum Depression. A selective serotonin reuptake inhibitor should be tried initially because such agents are associated with a low risk of toxic effects in patients taking an overdose, as well as with ease of administration. Non-pharmacological treatments include interventions like ‘Psychotherapy’. Results indicate that interpersonal psychotherapy adapted for a group model has positive implications for the treatment of Postpartum Depression. CAM therapies are a distinct category of treatments and interventions not included in modern medicine. Yoga is identified as one of the top 10 CAM therapies used among adults for depression. Yoga is an ancient holistic practice that originated in India. (Derivation- Yog- to yoke or unite). The philosophy of Yoga is based on 8 limbs that are better described as ethical principles for meaningful and purposeful living. It is a process of uniting the body via mind and spirit to promote physical and mental wellness. The concept of Yoga includes a terminology called ‘chakra’. Yoga maintains that chakras are the center points of energy, thoughts, feelings and the physical body. When the flow of energy tends to get blocked in a chakra it is said to trigger physical, mental or emotional imbalances. The practitioners who practice Yoga, free that blocked energy and are supposed to get rid of physical imbalances.

Following Yoga interventions would be taken into consideration-Relaxation, breathing, mindfulness and Yoga poses. A relaxation technique (also known as relaxation training) is any method, process or activity that helps a person to relax; to attain a state of increased calmness; or otherwise reduce levels of anxiety, stress or anger. It is often employed as an element of a wider stress management program and can decrease muscle tension, lower the blood pressure and slow heart and breath rates, among other
health benefits. Meditation is a form of relaxation. It is a form of mental training that has been shown to increase mental focus and reduce stress, has become an increasingly used technique in both the medical and clinical psychology arena. It is considered a family of techniques, which have in common a conscious attempt to focus attention, e.g., by observing the breath and avoiding every day thoughts.

Relaxation - Savasana (corpse pose), Meditation (10 minutes). Literally, a dead pose, Shavasana, is one of the foremost yogic relaxation techniques, eulogized in Hatha Pradipika as the technique that endows its practitioners with the relaxation of Citta (i.e., mind, intellect, and ego) and freedom from psycho-physiological fatigue.

Mindfulness training- Some Yoga practitioners believe there is a relationship between the mind and breath, and furthermore, that one can affect the mind and consciousness through the manipulation of their breath.

Breathing Techniques- Pranayama exercises for controlled breathing.

The pranayama patterns which would be practiced would include slow paced techniques- Nadishuddhi and Savitri. Pranayama involves manipulation of the breath that is a dynamic bridge between the body and mind. It consists of three phases: “puraka” (inspiration); “kumbhaka” (retention) and “rechaka” (expiration) that can be either fast or slow. Poses (asanas) - Balasana (child’s pose), Padmasana (lotus pose). Balasana relieves tension in the back, shoulders and chest, reduce fatigue this asana can be performed in between other asanas to avoid fatigue. Padmasana helps keep joints and ligaments flexible, it stimulates spine, pelvis, abdomen and bladder. It increases awareness and attentiveness. Poses (asanas) - Balasana (child’s pose), Padmasana (lotus pose). The scales and questionnaires which would be considered are – Perceived stress scale (PSS) and Edinburgh postnatal depression scale (EPDS). Perceived stress scale is the most widely used instrument for the perception of stress. It is a measure of the degree to which situations in one’s life are seen as stressful. It indicates the feelings of the subject in the past month. EPDS is an intervention to indicate the feelings of the mother during the previous week. This self-report measure is designed to screen women for symptoms of emotional distress during pregnancy. The EPDS includes one question (Item 10) about suicidal thoughts and should be scored before the woman leaves the office in order to detect whether this item has been checked.

Need for the study:

Postnatal (PNC) depression is becoming more and more prevalent since the last two-three decades. The stress and depression in combination suffered by a Post-natal female is also termed as Baby blues in a non-medical sense. During labor, the hormones associated with psychological stress-epinephrine and cortisol hormone rise by whopping levels. Usually the PNC female finds herself plagued by Poor sleep, fears and anxieties about the baby’s health, worries about the post-pregnancy body and sexuality, Disappointment about the quality of support received from one’s partner, guilt over having negative thoughts about the baby or parenthood, financial worries or pressures related to the workplace. This study will help to alleviate the stress and eventual depression caused due to such above listed factors.

2. METHODOLOGY

2.1. Objectives of the study

- To study effectiveness of Yoga on post-natal depression
- To study effectiveness of Yoga on stress.

2.2. Research Question

Will there be any effect of Yoga on Postnatal Depression and stress?

2.3. Hypothesis

2.3.1. Null Hypothesis (H0): There will be no significant effect of Yoga of postnatal depression and stress.

2.3.2. Alternative Hypothesis (H1): There will be significant effect of Yoga on depression and stress.

2.4. Source of Data
The sample of study will be selected from the Department of Obstetrics and Gynecology, Pravara Rural Hospital, Loni bk. in the age group of 20-35.

2.5. Method of collection of data

a) Type of Data: Data will be primarily collected by principal investigator.

b) Study Design: Pre and post experimental study.

c) Sample size: Sample size for the study will be 20 participants.

2.6. Participants: Participants admitted in Pravara Rural hospital, Department of Obstetrics and Gynecology. Maternity ward no. - 1, 2 and 3.

2.7. Sampling Method: Simple Random sampling

2.8. Study Duration: 4 weeks

2.9. Materials used

- Scales- Edinburgh Postnatal Depression Scale (EPDS) and Perceived Stress Scale (PSS)
- Consent Form
- Data collection Sheet-Evaluation and Re-evaluation sheets
- Pen
- Pencil
- Timer

2.10. Selection Criteria

Inclusion criteria:
Participants included will be

- Women with Normal delivery
- Those willing to participate.
- Women in the age group of 19-28

Exclusion criteria:
Participants not included will be

- Those not willing to participate
- Uncontrolled systemic disease.
- Pre-existing neurological or other orthopedic conditions

2.11. Outcome measures

Outcome measures used for the study will be

- Perceived Stress Scale (PSS).
- Edinburgh Postnatal Depression Scale (EPDS).

Perceived Stress Scale (PSS):
The stress level among postnatal women will be evaluated with the help of Perceived Stress scale (PSS). The PSS has 10 questions. The questions in the questionnaire reflect feelings and thoughts of postnatal women. The response in the questionnaire are Graded in 4 levels-0=Never 1=almost never 2=sometimes 3=fairly often 4=very often

Edinburgh Postnatal Depression Scale (EPDS):
The depression level among postnatal women will be evaluated with the help of Edinburgh Postnatal Depression Scale. The scale also has 10 questions. The maximum score of EPDS is 30. Score more than 10 indicate depression.

Reliability and validity of scales
The variance of EPDS accounts for 79.2% and the Content Validity Index was 0.93 which demonstrates a satisfactory consensus. The face validity and scale content were remarkable, and the KMO coefficient was 0.82. PSS-10 has good internal consistency and reliability.

2.13. Procedure

Ethical Clearance was obtained for the research proposal from the Institutional Ethical Committee of Dr A. P. J. Abdul Kalam College of Physiotherapy (PIMS/CPT/IEC/2018/552). The purpose of the study and how it will be performed was first explained to the participating candidates and then informed written consent was obtained. All the Postnatal women admitted to the obstetric ward who had recently delivered a child in Pravara Rural Medical Hospital were considered to be a part of the research. The participants were selected according to the inclusion and exclusion criteria. The participants were explained about the benefits and shortcomings of the intervention. Then informed written consent was obtained from the participants regarding the study. All the partici-
papts were thoroughly evaluated as per the inclusion and exclusion criteria prior to giving Yoga exercises. The intervention was given for 3 days per week for 4 weeks. In each week, in the first week onwards- two Yoga session were in presence of the therapist and 1 Yoga. From the start of the second week the patient were called in the hospital premise for follow-up sessions will be done at home. Telephonic/cellphone reminders will be sent to each participant. There was warm up of 10 minutes followed by cool-down session of 5 minutes. The YOGA POSES were given week wise along with relaxation, mindfulness and breathing training daily, namely-

**Week 1:** Only breathing and mindfulness training were given to the patient along with Shavasana (relaxation).

**Week 2:** Along with breathing and mindfulness exercises the patient were asked to perform Balasana (child’s pose).

**Week 3:** Both asanas were administered (Balasana & Padmasana) along with week 1 &2 exercises.

**Week 4:** The patients were able to perform all the taught exercises at home.

Perceived Stress scale and Edinburgh Postnatal Depression Scale were evaluated in each participant before the intervention and at the end of 4 week.

3. RESULTS

A total of 35 participants were sampled for the intervention out of which 20 fit into the inclusion criteria. The mean and standard deviation of both the components was calculated and in each category, Paired t-test was used. Using Graph Pad Instat3 the p-value, t-value degree of freedom and significance was obtained. For the EPDS, the pre-intervention mean was 13.900 and the post-intervention mean was found to be 6.600 the p-value was <0.0001 and the t-value was found to be 7.583 with 19 degrees of freedom which was statistically considered to be extremely significant.

For the PSS, the pre-intervention mean was 16.350 and the post-intervention mean was found to be 12.050 the p-value was <0.0001 and the t-value was found to be 7.583 with 19 degrees of freedom which was statistically considered to be extremely significant.

4. DISCUSSION

The present study “Effectiveness of Yoga as an intervention on Postpartum stress and Depression”, was conducted in the department of Obstetrics and Gynecology in Dr. APJ Abdul Kalam College of physiotherapy, Loni, Taluka Rahata, district Ahmednagar, Maharashtra, India. In this study, 20 postnatal Females with full term normal delivery were included and pain pressure threshold were taken as outcome measures. The main purpose of the study was to find out the effect of Yoga therapy on stress and depression faced by postnatal females. There was an immediate reduction in the stress and depression faced by postnatal (PNC) females after the intervention. The long-term effects were not evaluated. The results of this study found that, there was a statistically highly significant decrease (p< 0.0001) in depression and stress after the performance of the selected relaxation techniques sessions on postpartum women.

The study indicates 4 weeks of 3 exercise sessions as a regular exercise significantly reducing stress and depression in PNC females for short-term. The conclusions and results are obtained based on the Pre and Post-reading. Findings obtained as per the EPDS and PSS Scale reading criteria. Various studies show a link between Yoga and positive effects after PNC stress and depression. In some studies, like Melissa Buttner et.al. or Masoumeh Sohani et.al. comprising of the PNC females and other such references listed as well, the significant positive effects of Yoga have been confirmed.\(^1\&7\) Few studies depict that, the nature of Yoga is controlling the mind and central nervous system and unlike other sports, it has a moderating effect on the nervous system, the hormonal emissions, physiological factors, and regulation of nerve impulses; therefore, it can be effective in improving depression and mental disorders.\(^7\) Also, certain works do not directly co-relate Yogic way of living with improvement in stress and depression levels in females.
For instance, Oken et al. did not observe any significant effect of Yoga on improvement in mood in patients with MS, the limitation of this study is the small number of intervention sessions (one session per week). In other works, it is inferred that barriers to implementing exercise as a treatment for Postpartum Depression also exist. Also, the postpartum period is busy and the mother may have difficulty finding the time to exercise. Other things, such as breastfeeding and physically recovering from birth, may not make exercising feasible. Lack of social support or relationship demands, may pose additional barriers making exercising difficult. Various Yoga methods were used in these studies with the Western adaptation of Yoga, mindfulness meditation. Such western adaptations were found to be highly efficacious in this project. Regardless of the length of the intervention, the interventions proved to be efficacious. For example, the shortest Yoga intervention with depressed patients with chronic back pain showed positive results. These findings suggest that brief Yoga treatment or therapy can be effective in reducing depressive symptoms.

The longest intervention followed women through their pregnancy to 2 months post pregnancy. The pregnant women showed a reduction in depressive symptoms. These findings suggest that Yoga interventions can have a long-term positive effect on depressive symptoms. Seven studies implemented some form of follow-up with participants after the intervention, only in 6 studies did effects persist. The results of Dunn et al. who found 75% of participants in a mindfulness treatment group experienced a decrease in stress symptoms and 67% showed positive change in levels of stress and self-compassion at three months follow up. Hence the study imposes limitations as well as strengths at a respective level.

**Statistical Analysis**

In this study 20 female participants were considered with full term normal delivery. Pre and post scale assessment outcomes were taken for both scales. The results after comparison which were obtained were considered extremely significant. For the EPDS, according to the values obtained for mean, P-value and t-value, the results were found to be extremely significant. For the PSS as per the values obtained for mean, p-value and t-value, the results were found to be extremely significant.

**5. CONCLUSION**

Yoga can be given as an effective therapeutic intervention for the possible reduction of stress and depression in PNC females which would thereby help in reducing the medical cost per treatment. This would also help in reducing the cost of antidepressant medications. The current findings highlight future areas of research, including mechanisms of action such as mindfulness.

**6. REFERENCES**


25. Kannan K., Lathika K. “Effectiveness of


7. TABLES AND FIGURES

<table>
<thead>
<tr>
<th>Data</th>
<th>Mean</th>
<th>t</th>
<th>DF</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>13.900</td>
<td>14.799</td>
<td>19</td>
<td>&lt;0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>Post</td>
<td>6.600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 Edinburgh Postnatal Depression Scale

<table>
<thead>
<tr>
<th>Data</th>
<th>Mean</th>
<th>T</th>
<th>DF</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>16.350</td>
<td>7.583</td>
<td>19</td>
<td>&lt;0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>Post</td>
<td>12.050</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Perceived Stress Scale

![Figure 1 Edinburgh Postnatal Depression Scale](image)
To Study the effect of Yoga on Post-Partum Stress and Depression.

Figure 2 Perceived Stress Scale

Figure 3. Balasana

Figure 4. Padmasana and Pranayama

Cite this article as:

Source of Support: Nil; Conflict of Interest: None declared.