Effect of Meditative Movement Exercises with Breath Control on Depression in Nulliparous Women

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Abstract

Background: The prevalence of nulliparous women in India is 66% out of 8 million married women. In nulliparous women depression is the most common factor due to various other factors as single mother, or are not able to conceive, low income earners and those in unsupportive social situations. So as to reduce the depressive symptoms or thoughts we can teach them a set of meditative movement exercises specially in women who are nulliparous.

Objective: To study the effect of meditative movement exercises with breath control on depression in nulliparous women.

Methodology: The study was conducted in and around Karad, Maharashtra, and was carried over a period of 12 weeks. Study was conducted using sample size of 22 nulliparous women with minimal to moderately severe depression. The inclusion criteria was age group of 25 – 35 years females with exclusion criteria as history of high blood pressure, chronic medical illness and major psychiatric problem.

Results: Statistical analysis for effect of meditative movement exercise on depression in nulliparous women was extremely significant (P value=0.0001).It was extremely significant during pre-test as well as post- test. So there is improvement in the depression score after teaching the exercises to the individuals.

Conclusion: From this study, it can be concluded that the individuals showed improvement in depression levels after teaching them the meditative movement exercises.

Key words: *depression, nulliparous women, breath control, age group 25- 35 years, meditative movement exercises.*

Introduction

Nulliparous means a women who has never given birth either by choice or for any other reason. This term is also used in case of women who give birth to a still born baby, or a baby who is not able to survive outside the mother's womb. Globally 75% of women are nulliparous and have problems in conceiving. In India, 66% of 8 million married women are nulliparous. Among married young women aged from 20 to 24 years about 9.1 million are nulliparous. The main causes which lead to nulliparity in women can be ovulation problems caused due to polycystic ovarian syndrome, due to older age as in this period the female may face various problems as high blood pressure or gestational diabetes, nulliparity can also be caused due to endometriosis as they block the fallopian tube cause disrupt implantation and impact the egg quality, the other cause can be overweight due to inactive lifestyle or due to any eating disorder as anorexia or bulimia, due to tubal issues caused mainly due to STD and due to uterine abnormalities i.e. due to fibroids which develop within the wall of uterus.[2]

Women who can't conceive often experience distressing emotions as shock, depression, anger and frustration as well as loss of self –esteem, self-confidence.[1] They may also avoid social interaction with family and friends. Depressive disorders have become a widespread health concern throughout the world. The worldwide prevalence of depression and anxiety has been estimated at 10.4%.[1] Some of the reasons nulliparous women struggle with depression include stress due to pressure on the women to get pregnant,

medical conditions such as PCOS may also increase the risk of depression, the emotional and physical challenges of treatment for infertility. It is not unusual to feel depressed occasionally. However, when these feelings persist over time and affect a person's quality of life, they may be experiencing depression. Some symptoms of depression are loss of interest in most activities, sleeping too much or too little, having low energy, feeling worthless, trouble in concentrating or thinking. There are no studies being conducted on whether depression can cause infertility in women though some studies have just found a correlation between depression and increased rates of infertility. Also, depression may lead to lifestyle habits that can negatively impact fertility. For example, depression often causes overeating, being overweight or underweight which can cause infertility in women. Another factor is women who are depressed may often smoke or drink which can also cause problems to conceive. For measuring the depression level of the subject PHQ-9 questionnaire was used, which is basically used n multipurpose screening, diagnosing, and measuring the severity of depression.[7]

To reduce the nulliparity and depression there are various exercises. Studies show that physical activity reduces depression and anxiety.[2]Exercise also helps to reduce the risk for physical comorbidities that occur with depression.[3] Studies show that moderate regular exercise can improve fertility and the chance of conceiving increases. Studies has shown that vigorous exercise reduces the risk of ovulation and that moderate exercise decrease the risk of miscarriage and increase the chance of conceiving. While some studies show that low intensity exercises are helpful in reducing nulliparity as meditation, yoga etc. whereas high intensity exercises should be avoided as it may reduce the fertility. So, teaching low intensity exercises is helpful in women who can't conceive. There are various ways as relaxation, meditative movement exercises as well as yoga.

Payne and Godreau (2013) used the term Meditative Movement for forms of physical exercise which concentrates towards the bodily sensations, including proprioceptive, interoceptive, and kinesthetic sensations. The general overall purpose of meditative movement exercise is to increase vitality, balance circulation and to harmonize body-mind relationship. Meditative movement exercises has shown a positive effect on depression. These cause change in levels of cytokines and growth hormone.[5]As this exercise increases the body temperature and at the same time the temperature of brain increases which results in feeling of general relaxation. It also prevents various disorders and improve the functioning of the body which helps in reducing the depression in these women. It also increases the appetite and quality of sleep.

Material and Methodology

An approval for the study was obtained from the Protocol committee and the Institutional Ethical Committee of KIMSDU. An Experimental study was conducted for duration of 6 months at Physiotherapy department of Krishna college of Physiotherapy. Individuals were approached and those fulfilling the inclusive criteria were selected. This study included 22 individuals with depression according to inclusion and exclusion criteria. These individuals were given a PHQ-9 questionnaire prior to check the level of depression they had on minimal to moderately severe depression scale. Then according to the level of depression and the inclusion criteria individuals were selected and were taught all the meditative movement exercises. These exercises are performed in sets lasting about 20min per day. These are followed in following ways-

Begin with mindful standing. Feel sensations in your body. Move your arms up and down. Move your arms up and out, in and down. Stretch your arms. Rotate your shoulders. Gently rotate your head from side to side. Shake your arms and legs.

Outcome Measures:

The outcome measure used for this study was PHQ-9 Questionnaire.

This questionnaire aims at evaluating the degree of depression severity. It is a multipurpose questionnaire used for screening, diagnosing, monitoring and measuring the severity of depression.

Statistical Analysis

Statistical analysis of the recorded data was done by using the software SPSS version20.

22 subjects were successfully completed by giving them the questionnaire prior and after teaching them exercises. The result showed that mean of the pre- test score of depression is13.22 and SD is 1.744. The mean value of post test score of depression is 7.318 and SD is 1.524.

	Mean ± SD	T Value	PValue	Interfernence
Age 18 to 30 years	25.182±2.788	42.360	<0.0001	Extremely Significant
Pre-test score	13.227±1.744	35.577	<0.0001	Extremely Significant

Table No.1- Pre- test depression Score

Pie chart 1: It depicts the percentage of depression in individuals before the exercise.

Table No.2- Post- test depression Score

	Mean ± SD	T Value	PValue	Interfernence
Age 18 to 30 years	25.182±2.788	42.360	<0.0001	Extremely Significant
Post-test score	7.318±1.524	22.523	<0.0001	Extremely Significant

Pie chart 2: It depicts the percentage of depression in individuals after the exercise taught.

Result

The statistical analysis for the pre-test depression score shows significance and after the exercises given to the subjects the post-test depression score is extremely significant. There was improvement in the depression score after giving the meditative movement exercises.

Discussion

Depression has been a major widespread health concern. The worldwide prevalence of depression has been estimated at 10.4% (Andrews et al 2000). During pregnancy, depression affects 10-50% of women with the incidence being higher in low socioeconomic status. Many studies have been conducted on effect of aerobic exercise training on depression in nulliparous women but there are very few studies on this category of exercises. The present clinical trial was conducted to compare the effectiveness of meditative movement exercises with breath control on depression in nulliparous women. Results of this study were focused on improving or reducing the depression in nulliparous women by advising them set of meditative movement exercises.

In this study, 22 nulliparous women suffering from minimal to moderate depression were selected between the age group of 25-35 years. They were selected based on the inclusion criterion. They were given a PHQ-9 questionnaire prior, to check the level of depression before advising them the meditative movement exercises. After filling the questionnaire from the subjects they were checked on the basis of having minimal or moderately severe depression according to that they were given a set of meditative movement exercises. They were advised to do these exercises daily for 15 to 20 minutes. After giving them the exercises, the subjects were assessed again after 3 months to check the effect of those exercises on depression level. The percentage of depression before the test is 59% moderate depression, 35% moderately severe depression, 5%mild depression and 1% minimal depression and after teaching them the exercises the percentage of depression is 71% minimal depression, 23% mild depression, 5% moderate and 1% moderately severe depression.

Our study showed that there were considerable changes with significant difference seen in the level of

depression in the nulliparous women, as we analyzed that the changes in the PHQ-9 questionnaire for screening the depression level, before and after incorporating meditative movement exercises.

In a study done by Angelo Fernando Robledo-Colonia, they showed effect of aerobic exercise training on depression in nulliparous women where they had an experimental group to perform 60-min exercise classes per week, starting from week16 and 20 of gestation and continuing for 3 months. Sessions consisted of walking, stretching, aerobic exercises with relaxation.

In another study done by Eun Sun Ji, RN, they showed effect of Qi exercises on maternal/fetal interaction and maternal well- being during pregnancy where they selected 18 weeks pregnant women and gave them Qi exercises to perform twice a week for 90 minutes for 12 weeks. The results showed that Qi exercises lowered maternal depressive symptoms and improved the physical health of the mother.

This study showed has a positive influence among the nulliparous women with depression. And results were found to be statistically significant by the use of PHQ-9 questionnaire.

Conclusion

After analyzing the data, it was found that there is a significant effect of meditative movement exercises with breath control on depression in nulliparous women.

Abbrevations:

PHQ-9: Patient Health Questionnaire

MME: Meditative movement exercises

Conflict of Interest: There is no conflict of interest concerning the interest of study.

Source of Funding: This study is self- funded.

Ethical Clearance: The study was approved by institutional ethical committee of KIMSDU.

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