



MAINTAINING PSYCHOLOGICAL WELL-BEING BY DECREASING
ANXIETY IN HOSPITALIZED PREGNANT WOMEN

SILVIA-CARMEN MIKULOVIĆ^a

^a*Hyperion University, Faculty of Psychology and Educational Sciences
Department of Psychology*

Abstract

During pregnancy, many transient somatic disorders can occur, more or less lasting, sometimes leading to depressive symptoms, anxiety and relationship difficulties (Rotaru, 2011). Anxiety during pregnancy is estimated to affect between 15 and 23% (Sinesi et al, 2019) of pregnant women and it is associated with an increased risk for a number of negative maternal outcomes and for the further development of the child (Sinesi et al, 2019). Anxiety varies from a normal reaction in an unknown situation to a debilitating pathological condition. In the present research, I studied the decrease in anxiety of hospitalized pregnant women through meditation methods. Anxiety was investigated before and after a meditation exercise program. Anxiety was measured with the Hamilton Scale before the start of the meditation program and one or two months after it began. The results of this research showed that pregnant women with various somatic problems, with high anxiety measured before the exercise program had lower scores on the test for measuring anxiety after completing this program and had a more stable emotional state.

Keywords: *psychological well-being, pregnancy, anxiety, emotional state, meditative techniques*

1. INTRODUCTION

Pregnancy is a time of great biological, psychological and social changes in a woman's life. Preparing for the expectation of a child in the family can be fraught with various concerns and fears regarding fetal health, the physical changes that accompany pregnancy, as well as the fear of birth (Radoš et al, 2015). Pregnancy anxiety is not a rare occurrence and the data suggest that one in four pregnant women has had increased anxiety or some form of anxiety disorder (Grant et al, 2008). Anxiety during pregnancy is estimated to affect between 15 and 23% of women and it is associated with an increased risk for a number of negative maternal outcomes (Sinesi et al, 2019). Antenatal anxiety has consistently been

Corresponding author: Carmen Mikulovic

E-mail address: psiho_rot@yahoo.com

shown to be a strong predictor of postnatal anxiety and depression (Austin et al, 2007). It has also been linked to complications of childbirth and child development, including low birth weight, premature births and negative effects on children's neurodevelopmental, cognitive and behavioral outcomes (Sinesi et al, 2019). Negative outcomes in the development of children that are associated with antenatal anxiety include, for example, increased risk of language delay, hyperactivity disorders, attention deficit, and poor emotional regulation (Talge et al, 2007). Other research indicates that one in four pregnant women (24.1%) has at least one pregnancy anxiety. Pregnancy is a period of increased vulnerability to the development of anxiety and depression. Anxiety can be expressed by somatic symptoms. Many researches have highlighted the benefits of meditation on the emotional state of the investigated subjects. The term "meditation", typically used, refers generically to a wide range of practices. The generic use of "meditation" reflects its application in a remarkably wide range of contemplative practices: for example, visualizing a deity, reciting a mantra, visualizing "energy" flowing in the body, focusing attention on breathing, analytical review of arguments, or narratives and various forms of objectless meditations would all be considered "meditation." (Lutz et al, 2007). Meditation "through full awareness promotes the bringing of emotions into conscious attention, the regulation of these emotions, tolerance of deep sadness, awareness of one's own values and personal needs and the orientation of action according to all this" (André, 2019). The most popular schools in Japan, called Bompu-zen, through meditation, aimed at restoring physiological balance, mental balance and, in general, at improving health (André, 2019). The process of meditation, as well as its effects, is a subfield of growing neurological research. (Sequeira, 2014) Modern scientific techniques and tools, such as fMRI and EEG, have been used to study how regular meditation affects individuals by measuring brain changes and body changes (Tang et al, 2013). According to Smith (Iqbal et al, 2014), the term meditation refers to "a family of mental exercises that are generally involved in calming thought and attention". It is known that meditation plays a significant role in improving psychological disorders, and research suggests using meditation to reduce the level of depression and anxiety. Here are some research studies on the effects of meditation or various meditation exercises on the body:

1. On a sample of 174 adults in a clinical program to reduce stress based on Mindfulness (MBSR) the levels of mindfulness, medical and psychological symptoms, perceived stress and psychological well-being were investigated (Carmody et al, 2008). This program consisted of people facing problems related to stress, illness, anxiety, chronic pain and it was conducted in 8 sessions. The results showed increases in attention and well-being, decreases in stress and symptoms. Increases have been found in improved psychological functioning, suggesting that the practice of mindfulness meditation leads to reduced symptoms and improved well-being (Carmody et al, 2008). The participants involved in the study were

individuals enrolled in the MBS program at the University of Massachusetts. Each group included about 20-25 participants. Self-reported data for program evaluation and participant information were collected before the start and end of each 8-week group. 206 people from nine groups started the program. Of these, 174 participants (85% of participants) provided both pre- and post-MBSR data. The average age was 47.05 years, 63% were female. Marital status was: married (65%), cohabiting (9%), single 12%, separated, divorced or widowed 9%, and 5% did not answer this question. No significant differences were found for demographic variables (age, sex, marital status, participation in psychotherapy) or for any of the dependent variables, measured at pre-treatment (medical and psychological symptoms, perceived stress, well-being, attention (Carmody et al, 2008). Variables evaluated in both pre- and post-MBSR were attention, medical and psychological symptoms, perceived stress, and psychological well-being. Data about home practice were obtained from a mindfulness practice journal. Participants placed their written diaries in a closed box, built for this purpose that was in the classroom each week. The practice of mindfulness at home was assessed using a folder of seven color-coded journals. Psychological symptoms were assessed with the Symptom Inventory Brief (SIB). A global severity index (GSI) was calculated. Studies have shown significant reductions in GSI, anxiety, and depression associated with program participation (Carmody et al, 2008). Medical symptoms were assessed with the Symptom Checklist (MSCL) and perceived stress was assessed with Perceived Stress Scale (PSS). Participation in MBSR has been associated with significant decreases in PSS scores (Carmody et al, 2006). The results were: scores on all facets of mindfulness increased significantly before the end of the program. Psychologically well-being increased, medical and psychological symptoms and perceived stress levels decreased significantly. Research into the practice of mindfulness at home suggests that practice time for formal meditation (body scanning, yoga, etc.) is associated with many beneficial changes. The practice of body scanning has been significantly linked to increased psychological well-being, decreased sensitivity and interpersonal anxiety.

2. Another research (Iqbal et al, 2014) was conducted on 60 subjects of both sexes, aged between 18 and 55 years divided into two groups, experimental group and control group. The average age of the experimental group subjects was 35.46, and the average age of the control group subjects was 31.26. There were 11 male and 19 female subjects in the experimental group and 12 male and 18 female subjects in the control group. In the experimental group, from the point of view of schooling, the number of subjects was: students- 3, graduate subjects -20 and subjects with postgraduate studies -7, respectively in the control group, 6, 11 and 13. Anxiety was measured with the scale Sinha and Sinha anxiety, administered to both groups before and after meditation training. The post-meditation evaluation was done after 21 days of dynamic meditation training. Results show that there was a significant difference between the two groups in the post-evaluation scores, the

anxiety score of the experimental group was lower than in the control group. This shows that meditation has significantly helped reduce the anxiety of the experimental group. Mindfulness-based stress reduction (MBSR) has been shown to be effective in improving the clinical profile of social symptoms of anxiety, depression, self-esteem in adults with social anxiety disorder (SAD).

3. Recently, there has been a particular interest in researching the therapeutic benefits of meditation in psychological disorders and the results have been significant (Sharma et al, 2017). Much research has been done on different meditation techniques. This research was done on Anapanasati meditation, a form of Mindfulness meditation. Anapanasati meditation consists of a simple observation of one's own breathing, ie inhalation and expiration (Sivaramappa, 2019). In this study, the effect of meditation on individuals with moderate anxiety, evaluated with an anxiety scale, was studied. The study involved 112 subjects, aged between 20 and 65 years. Participants were divided into two groups, one experimental and one control. Each group had 56 participants. The STAI Inventory was used. Participants in the experimental group did Anapanasati meditation six days a week for six months under the supervision of experts, one hour a day, along with routine activities. At the control group, there was no intervention. It was ensured that there was no interaction between the groups throughout the six-month period. The tests were administered on the first and last day of the study. Results: The experimental group showed a significant reduction in the STAI score after the intervention, while the STAI score increased in the control group of stress parameters and the integral area of health parameters measured by the Electro Photonic Imaging (EPI) technique were significantly reduced with meditation (Deo et al, 2015).

Previous studies on mindfulness meditation have established the effectiveness of meditation in reducing the level of anxiety and depression (Sivaramappa, 2019). The results of the study highlight the importance of meditation in reducing the level of anxiety measured by STAI and confirm the effectiveness of Anapanasati meditation. An in-depth study is needed to understand the effectiveness when anxiety is comorbid with other physiological and psychological disorders.

2. OBJECTIVE AND HYPOTHESES

2.1 OBJECTIVES

The established goal was to decrease the level of anxiety in pregnant women after a program of pre-established meditation exercises, exercises based on focusing on a stimulus, focusing on breathing, awareness of body function,

awareness of body organs, focus on the fetus, awareness of the relationship with this, creative meditations.

2.2. HYPOTHESIS

Hypothesis: We estimate that there will be statistical significance between the two stages of pre- and post-intervention testing in the intervention program to reduce anxiety for the 30 pregnant women.

It is assumed that there is a positive correlation between anxiety and meditation exercises. We assumed that decreasing anxiety leads to relaxation of the whole body, self-regulation of body functions, optimization of body functionality, increased adaptability, better management of conflicting situations.

3. METHOD

3.1. PARTICIPANTS

This research involved 30 pregnant women who were hospitalized with the diagnosis of threat of abortion or threat of premature birth aged 27-39 years old. Average age - 33 years old.

Inclusion criteria - included patients who had clinically significant scores after applying the anxiety test.

Exclusion criteria - patients with a declared psychiatric diagnosis were excluded.

There was no control group because almost all patients wanted to work on these exercises.

3.2. INSTRUMENTS

The Hamilton Anxiety Scale is one of the first instruments for measuring anxiety and was developed by Hamilton (1959) to assess the severity of anxiety symptoms. It provides an overall assessment of anxiety and identifies both mental and somatic symptoms. The scale has proven useful over time and can be used to detect symptoms of anxiety or assess their severity.

3.3. PROCEDURE

All patients were hospitalized for imminent miscarriage or threat of premature birth. They were evaluated with the Hamilton Scale before the start of the exercises and a month or two after the start of the exercises. They participated in the meditation program that included exercises to optimize the functioning of the body and maintain emotional balance.

Psychological comfort was defined as the situation in which patients reported reduced anxiety, decreased irritability, increased tolerance to frustration, decreased emotional lability (no more crying), reduced insomnia, reduced physical pain, decreased contractions, decreased criticism. Demographic variables were not correlated because all participants were women with the same marital status.

4. RESULTS

To validate the pair sample hypothesis, the average ranges of the initial distributions and those obtained by re-testing by applying the Wilcoxon nonparametric test were compared. The results obtained from the Wilcoxon test indicate the presence of statistical significance between the two stages: $p < 0.001$, $Z = -4.789$. The average for pre-intervention is 19.7 and for post-intervention 6.47. This is due to the fact that, between the two tests, the intervention program was effective and the level of anxiety was significantly reduced. Thus, the declared purpose of the intervention, ie through these exercises, the decrease of anxiety that generates the relaxation of the whole body is achieved, and it leads to self-regulation of body functions, increased adaptability, better management of conflict situations, etc. It has been validated. The statistical results validated the decrease of anxiety and the declared state of pregnant women was characterized by decreased irritability, increased tolerance to frustration, decreased emotional lability, acceptance of the existential situation.

NPar Tests

Descriptive Statistics

	N	Average	Std. Deviation	Minimum	Maximum
Pre-intervention	30	19.70	8.056	8	37
Post-intervention	30	6.47	2.543	4	12

Wilcoxon Signed Ranks Test

Ranks

		N	Average Rank	Sum of Ranks
Post-intervention - Pre-intervention	Negative Ranks	30 ^a	15.50	465.00
	Positive Ranks	0 ^b	.00	.00
	Ties	0 ^c		
	Total	30		

a. Post-intervention < Pre-intervention

b. Post-intervention > Pre-intervention

c. Post-intervention = Pre-intervention

Test Statistics^a

Post-intervention - Pre-intervention	
Z	-4.789 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Effect size calculation in accord with formula $r = \frac{z}{\sqrt{N}}$ generate a large effect size (0.87). Thus, one can see, once again, the effects of the intervention program.

5. CONCLUSIONS

Despite the limitations of the literature, there are results that suggest that exercise programs based on different meditation exercises help reduce anxiety. Studies have shown benefits against a number of both physical and mental conditions, including irritable bowel syndrome, fibromyalgia, psoriasis, anxiety, depression and post-traumatic stress disorder (Powell, 2018). It has been found that the practice of mindfulness meditation leads to reduced symptoms and improved well-being. These findings suggest that mindfulness modulates neural responses (LPP) at an early stage of affective processing and may promote healthy emotional functioning (Tang et al, 2013). Thus, clinicians should consider and discuss with their patients the role that such an exercise program could play in addressing anxiety and psychological stress. MBSR is effective in reducing stress, depression, anxiety and improving the quality of life of healthy people; however, more research is needed to identify the most effective elements of MBSR (Khoury et al, 2015). The research presented obtained effective results in reducing anxiety and improving psychological comfort, through the results obtained at the Hamilton Scale and through the observable and declared behaviors of patients. The limitations of this research derive from the non-existence of a control group, because all hospitalized pregnant women wanted to work on this method and from the presence of the drug treatment that was administered throughout the hospitalization period. It is important to inform pregnant women about the possibility of using this psychotherapeutic technique as an adjunct to drug treatment. It is desirable that physicians caring for pregnant women with various health problems perform anxiety screening and take it into account in their treatment of reducing anxiety, which may increase compliance with treatment.

Assessment of individual functioning is particularly important for pregnant women with dysfunctional pregnancies as well as for people in difficulty in general. Understanding several areas of functioning, evaluating the characteristics of people / patients in relation to others, but also in relation to themselves, based on appropriate screening will bring progress in their effective treatment. It is important to identify women at risk for anxiety / depression in early pregnancy to reduce the clinical implications. Recognition and management of anxiety in pregnant women may be of interest for the prevention of postnatal depression.

Received at: 04.09.2020, Accepted for publication on: 23.09.2020

REFERENCES

- André, C.(2019). *Meditați cu noi. 21 de experți în meditație vă sfătuiesc și vă îndrumă*. Bucuresti: Trei.
- Austin, M. P., Tully, L., Parker, G. (2007). Examining the relationship between antenatal anxiety and postnatal depression. *Journal of Affective Disorders*. Volume 101, Issues 1–3, p169-174.
- Carmody, J.& Baer, R.A.(2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *Journal of Behavioral Medicine*. Vol 31, issue1, p23-33, DOI: 10.1007/s10865-007-9130-7
- Deo, G., Itagi, R. K., Thaiyar, M. S., Kuldeep, K. K. (2015). Effect of anapanasati meditation technique through electrophotonic imaging parameters: A pilot study. *International Journal of Yoga*. Volume 8, issue 2, p117–121. doi: 10.4103/0973-6131.158474
- Grant, K. A., McMahon, C., Austin, M. P. (2008). Maternal anxiety during the transition to parenthood: A prospective study. *Journal of Affective Disorders*. Volume 108, issues 1-2, p101-111.
- Hamilton, M.(1959).The assessment of anxiety states by rating. *British Journal of Medical Psychology*. Vol 32, Issue 1, p 50–55, doi:10.1111/j.2044-8341.1959.tb00467.x
- Khoury, B., Sharma, M., Rush, S. E. (2015). Mindfulness-based stress reduction for healthy individuals: A meta-analysis. *Journal of Psychosomatic Research*. Volume 78, issue 6, p 519-528.
- Lutz, A., Dunne, J., Davidson, R.(2007). Meditation and the neuroscience of consciousness: an introduction. *Part I - The cognitive science of consciousness. Chapter 19. Cambridge University Press*. DOI:https://doi.org/10.1017/CBO9780511816789.020
- Iqbal, N., Singh, A., Aleem, S., Bano, S. (2014). Effects of dynamic meditation on anxiety. *Indian Journal of Health and Wellbeing*. Vol5, no8, p909-912 doi: 10.1007/s10943-015-0082-x.
- Powell, A. (2018). Researchers study how it seems to change the brain in depressed patients.*The Harvard Gazette. Health&Medicine*. p 12.

Radoš, S. N., Tadinac, M., Herman, R. (2015). Razvoj i validacija Ljestvice zabrinutosti u trudnoći. *Klinička psihologija*. Vol.8, No.2, p 151-166.

Rotaru, C. (2011). Implicațiile psihologice și sociale ale sarcinilor cu risc și ale celor nedorite. *Lucrare de doctorat*. Nepublicata.Univ. București

Sequeira, S. (2014). Foreword to Advances in Meditation Research: neuroscience and clinical applications". *Annals of the New York Academy of Sciences*.Volume 1307, issue 1, p v–vi 1-124.

Sharma, A., Barrett, M.S., Cucchiara, A.J., Gooneratne, N.S., Thase, M.E. (2017). A Breathing-Based Meditation Intervention for Patients With Major Depressive Disorder Following Inadequate Response to Antidepressants. *The Journal of Clinical Psychiatry*. Vol 78, no 1, p 59-63.

Sinesi, A., Maxwell, M., O'Carroll, R., Cheyne, H. (2019).Anxiety scales used in pregnancy: systematic review. *BJPsych Open, BJPsych Part of maternal Mental Health Collection*. Vol.5, issue 1, Published online by Cambridge University Press p 1-13

Sivaramappa, B., Deshpande,S., Kumar, P.V.G., Nagendra, H.R. (2019). Effect of anapanasati meditation on anxiety: a randomized control trial. *Annals of Neurosciences*.Vol 26, issue 1, p 32-36.

Talge, N.M., Neal, C., Glover, V. (2007). Antenatal maternal stress and long-term effects on child neurodevelopment: how and why? *Journal of Child Psychology and Psychiatry*. Vol 48, issue 3-4, p 245–261.

Tang, Y.Y.& Posner, M.I. (2013).Special issue on mindfulness neuroscience. *Social Cognitive and Affective Neuroscience*. Vol 8, issue1, p 1–13.doi:10.1093/scan/nss104

Copyright: Submission of a manuscript implies that the work described has not except in the form of an abstract or as part of a published lecture, been published before (or thesis) and it is not under consideration for publication elsewhere; that when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher.
