



The Effect of Yoga on Anxiety in Pregnant Women in Their First Pregnancy of Zahedan City in 2017

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Abstract: *Introduction: Pregnancy anxiety has negative consequences on maternal and fetal health, so today, various interventions have been proposed to control pregnancy anxiety. The aim of this study was to investigate the effect of yoga on the anxiety of pregnant women in their first pregnancy. Methods: A randomized clinical trial was conducted in 2012 on 60 first pregnant women aged 18-40 years old referring to comprehensive health centers of Zahedan. The subjects were randomly divided into intervention and control groups. During the 26-27 weeks of gestation in the intervention group, 24 patients, 15 sessions of yoga and 29 control groups received routine care. Data were collected by a questionnaire for demographic and pregnancy anxiety (PRAQ-R). The pre-test was done at week 26 and the post-test at 34-36 weeks, taking into account the interval of 2 weeks of intervention, and the data were analyzed using paired t-test. The software spss 16 was analyzed. Results: The mean of anxiety score before intervention was not significantly different between the two groups ($p = 0.48$) but after the intervention, the mean anxiety score decreased in the intervention group ($p < 0.0001$). Statistical tests showed that there was a significant reduction in the level of anxiety after intervention in the intervention group ($P = 0.001$). There was no significant decrease in the control group ($P = 0.11$). Conclusion: Yoga exercises are effective in reducing anxiety in pregnant women.*

Keywords: *Anxiety, Yoga, First Pregnancy.*

INTRODUCTION

Pregnancy is a unique and unique experience that brings about the prosperity of the pregnant woman's body and body. There are fewer other events in the life of women that have similar physical, emotional and social effects on the life of women and their families (Rubertsson et al., 2014). If pregnant women cannot adapt to these changes, they will be anxious (Martini et al., 2010). The incidence of anxiety along with other mood disorders in the mother, before, during and after delivery has different negative consequences for both mother and fetus. A review of the literature has shown that women who suffer from anxiety disorders during their pregnancy and often choose cesarean as their preferred method of delivery (Glover, 2014; Safarzadeh et al., 2008). Anxiety causes an increase in adrenocorticoid hormones, prolactin, cortisol and prostaglandin, which can affect physiological responses such as respiratory rate, heart rate, oxygen consumption, epinephrine and norepinephrine plasma concentrations, as well as cardiac output and hypertension (Rubertsson et al., 2014),

and consequently The way to disrupt the smooth muscle of the uterus and reduce the contractile power of the uterus can disrupt the process of delivery and develop cervical dilation (Bazrafshan and Rad, 2009; Martini et al., 2015), which can increase the incidence of cesarean section. In fact, pregnancy anxiety is a reflection of the response to stress (Kang et al., 2016). Stress and anxiety treatments can help pregnant women to protect their health and the fetus from harmful effects (Bandura, 2006).

Today, there are various interventions to control anxiety, which can be referred to as pharmaceutical and non-pharmaceutical methods (Bazrafshan and Ghorbani, 2010). The use of complementary medicine has become increasingly commonplace for pregnant women and women admitted to labor (Field, 2010). A review of studies has shown that the most common alternative treatments include massage therapy, acupuncture, relaxation and yoga in pregnancy (Field, 2010; Artal and O'toole, 2003). Yoga is referred to as a set of physical exercises and the selection of controlled breathing exercises and relaxation exercises. Physical and respiratory exercises of yoga increase flexibility and muscle strength, as well as relaxation of vaginalization and meditation in yoga, stabilizes the autonomic nervous system, controls emotions, and improves the health of the person (Newham et al., 2012). Yoga exercises increase the health of the body and mind and increase the ability and vitality of an ever-increasing body of mind. Yoga can help improve the status and strength of the muscles of the back and abdomen and the pelvic floor and facilitate the process of labor and delivery (Taherkhani et al., 2003). Most yoga movements can be adapted to the needs of the pregnant woman and their abilities, and the flexibility and elongation of the muscles and the training of listening to the body's needs and reducing stress by physical relaxation exercises and control of breathing and relaxation (meditation), which relaxes the mind They can help (Sondhi and Pormanaf, 2008; Sun et al., 2010). Studies in other countries have shown that methods of concentration of thought, meditation and yoga are effective in reducing stress and anxiety in general (Sondhi and Pormanaf, 2008; Fillipas et al., 2006). Studies have shown that yoga exercises during pregnancy can reduce the level of anxiety and depression in women (Satyapriya et al., 2013), as well as improve neonatal outcomes (Field et al., 2012). Research has also shown that one of the effective ways of preventing and treating anxiety is physical and mental exercises (yoga) (Satyapriya et al., 2013; Yurtkuran et al., 2007). A study done in Iran (2014) showed that yoga exercises in pregnant women improved their mental health, and there was a significant difference between the components of anxiety, depression, physical symptoms of interpersonal sensitivity and phobia in intervention and control groups (Esterabadi; Fazelnajafabadi et al., 2014). Considering the effectiveness of yoga exercises on maternal and fetal outcomes and the integration of physiological delivery schedules in the delivery of care services and limited studies on the effect of yoga during pregnancy in Iran and conducting these studies in other countries, including India and Taiwan We decided to do a study to make full use of yoga exercises effective in reducing pregnancy anxiety. These exercises, which are now partly used in physiological delivery classes, should be used more fully and extensively.

Method

The current study is a randomized clinical trial. The research population consisted of 60 women with first pregnancy referring to comprehensive health centers of Zahedan from October to March 2013. Determining the sample size in this study, based on the results of the Saniichi study (Sun et al., 2010) in Taiwan, each group was estimated to be 25, with a sample size of 30 for each group. Multi-stage sampling. At first Zahedan city was divided into five districts of north, south, east, west and center according to the socioeconomic and cultural conditions of the city. From each section a health center was randomly selected, then a researcher at comprehensive health centers and bases The list was selected and the names and telephone numbers of the women who were presented at the week of 27-26 weeks of gestation were extracted from the apple system. During the telephone call, the mothers were invited to attend the women's center after visiting if they had criteria for entering the study and the inclination They participated in the study according to the priority of entering the center number, which is numbered On the envelopes sealed the match. Then, the researcher

attended the comprehensive health centers and selected bases, and the names and telephone numbers of the women who were exposed during the week 27-26 weeks of pregnancy were extracted from the apple system; mothers were invited to attend by phone call. Women after referral had criteria for entering the study and were willing to participate in the study, according to their priority entering the center, which corresponded to the numbers on sealed envelopes. Inside sealed envelopes, one of the codes A and B was obtained based on the sequence of permutation blocks, each of which represented the study group in which the individual was placed. Group A received a yoga intervention that received a maximum of 15 and at least 12 sessions of yoga for 45-60 minutes in 5 or 4 weeks, and group B received control group that received routine care.

The criteria for entering the study include age 18-40 years old, first pregnant women, single pregnancy, gestational age 27-26 weeks Iranian having reading and writing skills, non-use of any psychiatric medication, absence of participation in maternity wards Non-participation in activities Yoga and similar exercises (Pilates), a lack of physical illness that can endanger the person's or embryo's yoga posture, such as injury or spinal cord surgery, a history of repeated abortions, lack of drug addiction, lack of physical and mental illness, lack of midwifery problems including cervical cervicitis, placenta, high fever, premature rupture of the water bag, polyhydramine. In the event of any complications during pregnancy, such as increased blood pressure during pregnancy, miscarriage, early delivery, reluctance to continue working, attending classes (5 absentee classes), participation in pilates and aerobic classes, they were excluded.

In relation to ethical considerations, the authorization from the Ethics Committee of Zahedan University of Medical Sciences with the issue of 1396.153 IR. zaum REC and the clinical trial code IRCT20160704028794N2. After expressing the research objectives to pregnant women and ensuring the freedom to practice entering or leaving the study at any time, all of these subjects received written and informed consent to enter the study by the researcher.

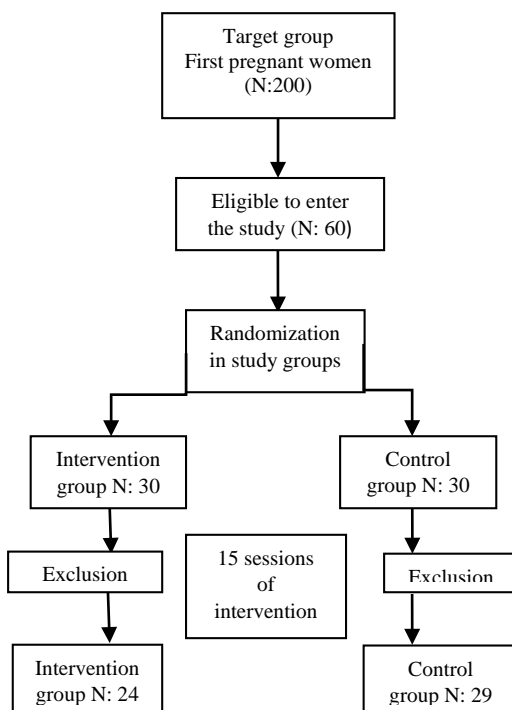


Figure 1: Diagram of how to select and attend participants in the control and intervention groups in the study

The demographic questionnaire and the revised pregnancy-related anxiety questionnaire were completed in all 27-26 weeks for all mothers participating in the study.

The intervention group, after receiving instructional materials on the benefits of yoga, received practical training at a club under the supervision of a Yoga instructor with a researcher who had completed general classes of yoga for 40 hours. At the beginning of each warm welcome session, then the asanas were done according to the table, and at the end of the class, relaxation and release exercises were performed.

Details of yoga exercises in the intervention group are presented in Table 2.

Table 1: Specific exercises for each yoga session

1. Grivasakti: Neck rotating movements aiming at eliminating neck and shoulders
2. Netra sakti: eye movements
3. Bhiya sakti: Shoulder movements to relieve stress from the shoulder of the elbow arm.
4. Gulpha Sakti: ankle gestures
5. Jatara parvitti: bent torso
6. Baddhakon asana: Butterfly motions for hip flexion
7. Paschimottan Asana: Moving Forward for Fixation of Waist and Back Dryness
8. Salahh asana: grasshopper movement to relieve pressure from the legs and the lower back area
9. Ustrasana: camel position. Flexibility of the back and waist
10. Tadasana: the balance of expansion and elongation of the entire body
11. Padahasthasana: bending forward in standing position
12. chandrasana: moon condition
13. Trikonasaana: triangle condition, the firmness and constancy of the muscles of the hips and lumbar
14. Virabhadrasana: the status of fighters strengthening the pelvic muscles of the arm and shoulder
15. Nadi Shodhan: Intermittent nasal breathing

Regarding the nature of this study, which is a sport, there is no possibility to ignore participants and researchers, only the specialist is not aware of which code for the yoga group and which code belongs to the control group and the data is entered with the code. Became a computer. The completed questionnaires for this study were pre-test and post-test, pregnancy-related anxiety inventory (PRAQ-R), demographic information collection (including maternal age, gestational age, occupation), Education, abortion history, ethnicity). Scores on Likert scale ranged from 1 (definitely false) to 5 (surely true). The scoring of the questionnaire was achieved by aggregating the grades of each statement, ranging from 1 to 5, and the pregnancy anxiety score was 1 to 50.

The anxiety inventory questionnaire examined three subscales: 1- Fear of giving birth, such as I worry about the pain of contractions and pain during childbirth. 2- Fear of bringing a child with a physical or mental condition, such as sometimes worried about my weak child I'm sick of the disease. I'm afraid of my appearance, such as worrying about my obesity. In a study in Iran, the pregnancy anxiety questionnaire had a high internal consistency with Cronbach's alpha of 0.77 (Karamouzianzadeh, Behroozi, 2017).

The anxiety questionnaire used in this study was confirmed by Babanazari et al. (Babanazari et al., 2008). However, in order to be sure, in this study, by completing a questionnaire by at least 30 people in the community, the reliability of the questionnaire with Cronbach's alpha was 0.72.

At the 34th week of gestation, the post-test was completed after the intervention and taking into account the interval of 2 weeks from the intervention by the individual in the presence of the researcher. During this period, the control group received routine and routine care during pregnancy. At the end of the 34th week of gestation, contact with the control group was contacted and invited to participate in the post-test. The questionnaire was completed.

Data collected from questionnaires were analyzed in SPSS software. Data were analyzed using descriptive statistics (mean, frequency and standard deviation), Mann-Whitney, Chi-square, paired t-test and linear regression. Kolmogorov Smirnov test was used to determine and validate the data. In cases where the distribution of data was not normal, the Mann-Whitney test was used to compare the distribution of scores in the two groups. The significance level in this study was considered 0.05.

Findings

The findings of this study showed that the mean age of the samples in the yoga and control groups was 24.1 ± 2.8 and 24 ± 3.1 years, respectively, which did not show any significant difference between the two groups ($p = 0.08$). Table 3 shows the frequency distribution of demographic variables in control and intervention groups. Chi-square test showed that, except for the ethnicity variable (0.02), the distribution of the remaining variables in the two groups was the same. Meanwhile, by using regression methods, the effect of ethnicity was controlled.

Table 2: Frequency distribution of demographic variables in control and intervention groups

*P	Control group	Yoga Group (24)	Features
0.8	24±3.1	24.2±1.8	Age (year)
	27.84±2.9	28.3±26.08	Spouse's age
			Level of Education
	3	3	Elementary and middle school
0.37	7	3	High school
	9	7	Diploma
	11	17	Academic
			Spouse education level
0.27	6	2	High school
	12	12	Diploma
	12	16	Academic
			Husband employment status
0.58	5	3	Worker
	7	10	Employee
	18	17	Self-employed
			Employment status
0.5	4	5	Employed
	26	25	Housewife
0.02			Ethnicity
	12	21	Fars
			Baloch
			Type of delivery
0.24	20	24	Normal
	10	6	Cesarean

Table 3: Pregnancy Anxiety Questionnaire Questions

1. I'm worried about my childbirth.
2. I'm worried about pain during childbirth.
3. I'm worried about the fact that after giving birth, my body did not regain its normal shape.
4. Sometimes I'm concerned that our child's health is weak and prone to illness.
5. I'm worried that he would not be attractive.
6. I'm worried that I'll scream and give up control during labor pain
7. I'm so concerned about weight gain.
8. I'm worried my baby may have mental disabilities or suffer from brain damage.
9. I am worried that our baby will be born dead, or during childbirth or immediately after childbirth.
10. I am afraid that my child suffers from a physical impairment.

Table 4: Comparison of the mean of pregnancy anxiety scores before and after the intervention between the two groups

P intergroup Independent T	Control group N: 29	Yoga group N: 24	Group Variable
0.48	37.26±7.11	38.4±36.8	Anxiety Score before Intervention
0.0001	37.6±84.4	24.4±87.5	Anxiety Score after Intervention
0.001	0.1±56.8	-15.3±37.18	Anxiety Score Changes
	0.11	0.001	P within the group T paired test

This study showed that the mean of anxiety scores in the samples before intervention was 38.36 ± 4.86 in the yoga group and 37.26 ± 7.11 in the control group. According to the independent t-test, at the beginning of the study, there was no statistically significant difference, but after intervention, the anxiety score in the intervention group (24.87 ± 4.5) was significantly higher than the control group (37.84 ± 6.4) ($P = 0.001$). (Table 4)

Since the distribution of ethnicity was not the same in both intervention and control groups ($p < 0.05$), therefore, for controlling ethnicity and comparing the two groups while controlling this variable, linear regression test was used. Linear regression showed that, despite control of ethnicity variable The degree of difference in anxiety scores in the two interventions and controls is still different. Meanwhile, due to the non-normalization of the distribution of the difference in scores, a linear regression was used to change the scores logarithm.

Table 5: Linear regression coefficients of anxiety variable

P	Standard error of regression coefficient	Confidence of regression coefficient	Regression coefficient	Coefficients The variance dependent on the logarithm of the difference in the anxiety score
0.001	0.131	1.7-4.8	2.15	group
0.26	0.11	0.36-0.1	-0.129	Ethnicity

Discussion

Yoga has a significant effect on the components of anxiety, depression and physical symptoms. According to other research results, the results of this study showed that yoga exercises reduce anxiety in pregnant women. Esterabadi, in his study, said that pregnant women's exercises are consistent with yoga exercises. The results of Sathya Paria's and his colleagues' research showed that anxiety and depression in pregnant women who received yoga training were lower than those in the control group, this result is consistent with the result of present research. In the study of Field (2012), anxiety and depression in the yoga group and textual support for the intervention group that received only routine care for pregnancy decreased, this corresponded with the present study and was similar in number and content of the sessions. In this study, Fars ethnicity was higher in yoga group than in the Baloch ethnic group as control group. In the control group, this difference was statistically significant between the two groups, although the results of the pre-test showed no significant difference between the anxiety in the two groups before the study, but this The case can be considered as limiting of this study and it is suggested that in future studies other methods such as matching the samples in the intervention and control groups should be used. According to the inclusion criteria, the lack of participation in maternity and adolescent classes and participation in the yoga class, and taking into account the fact that in the preparation classes for childbirth, a number of yoga movements are used in addition to increasing maternity awareness and maternity information, by health cares who, in addition to holding these classes, have other responsibilities that affect the quality of the classroom. Considering that the supporters of yoga exercise in women are higher and this exercise is less prenatal during

pregnancy and its movements are flexible with pregnancy, and on the other hand, the information and awareness of mothers in dealing with health care providers and general practitioners and specialists and through studying and Cyberspace is rising and a practical vacuum to control anxiety and increase the sense of being good in pregnancy is suggested. The possibilities of using yoga exercises for mothers should be provided.

Conclusion

The results of this study showed that education during pregnancy caused a significant reduction in the mean of women's anxiety scores in the yoga group. There was no significant difference between the two groups except for ethnicity in terms of demographic characteristics of the groups. Therefore, according to the results of this study It is suggested that in the preparation classes for childbirth more emphasis should be put on the physical training of respiratory techniques and meditation in order to control the pregnancy anxiety in addition to raising awareness.

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