

## The Effectiveness Suryanamaskar Yoga On Anxiety In Pregnant Women During The Covid-19 Pandemic

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### ABSTRACT

Widespread anxiety and stress during the pandemic significantly impacted pregnant women, with research indicating a surge in anxiety levels of over 50.67% due to concerns regarding maternal health and postnatal care. To address this, a study evaluated the efficacy of Suryanamaskar yoga in mitigating these psychological pressures. Unlike traditional methods, this research leveraged digital interventions by utilizing Google Meet and instructional videos to facilitate sessions for 20 pregnant woman respondents selected through consecutive sampling. The study employed the Depression Anxiety Stress Scale (DASS) to measure psychological shifts, analyzed via a paired sample t-test with a significance level of 0.05. Initial assessments revealed that 11 respondents experienced moderate anxiety, while nine reported mild symptoms. Following the Suryanamaskar yoga intervention, the results demonstrated a marked improvement: 13 respondents transitioned to normal anxiety levels, and seven remained at a mild level. Statistically, the intervention yielded an average anxiety reduction of 10.8 points. The resulting p-value ( $p < \alpha$ ) confirmed a significant difference in anxiety levels before and after the treatment. These findings suggest that Suryanamaskar yoga serves as an effective midwifery therapy to complement routine clinical check-ups. By integrating this practice into prenatal care, healthcare providers can better support the mental and spiritual readiness of pregnant women. Reducing psychological distress not only enhances maternal well-being but also ensures women are better prepared for the complexities of childbirth and newborn care.

**KEYWORDS:** Yoga Suryanamaskar, anxiety, pregnant women, COVID-19 pandemic

### Background

On May 28, 2021, data from the Ministry of Health related to COVID-19 showed that the number of people confirmed to have this disease was 1,809,926 patients, with an increase of 6,565 cases per day. The previous day, the total number of recovered patients was 1,659,974 throughout Indonesia, with an additional 5,417 recovered patients, while 50,262 people had died, with 162 deaths recorded in 24 hours. As for East Java itself, as of May 28, 2021, there were 154,060 confirmed COVID-19 cases, with 141,040 recoveries. The death toll stands at 11,331 people (1). As for Blitar Regency, as of May 28, 2021, there are 5,715 confirmed COVID-19 cases, 4,963 recoveries, and 637 deaths. For the group of pregnant women, 4.9% of pregnant women were confirmed to have Covid out of 1,483 confirmed cases with accompanying condition data (2).

From the above cases, we can see that COVID-19 has a significant impact on human life. COVID-19 also affects education, social, cultural, political, and religious systems. This has caused concern among all groups, including pregnant women. During the COVID-19 pandemic, there have been many restrictions on almost all health services for mothers, children, and newborns. For example, pregnant women are reluctant to go to health centers for fear of infection. This has caused anxiety among pregnant women (2). Anxiety and stress during the pandemic have been experienced by most people, including pregnant women. Research shows that anxiety among pregnant women has increased by more than 50.67%, partly due to concerns about their pregnancy and the care of their babies after delivery. Anxiety and depression during the prenatal period can increase the risk of miscarriage, premature birth, low birth weight, and lower Apgar scores at birth (3). One alternative to reduce anxiety is yoga. Yoga during pregnancy is more effective in reducing anxiety and depression (4). Antenatal yoga is a science that explains the connection between the physical, mental, and spiritual aspects of humans to achieve overall health. Practicing yoga during pregnancy prepares the body and mind to be ready and resilient for childbirth. When performing yoga movements, the hypothalamus affects the autonomic nervous system (3), decreasing sympathetic nerve activity and increasing parasympathetic nerve activity. Yoga inhibits the increase in sympathetic nerves, thereby reducing the amount of hormones that cause bodily dysregulation. The parasympathetic nervous system sends signals to influence the release of catecholamines. As a result, there is a decrease in heart rate, breathing rhythm, blood pressure, muscle tension, metabolic rate, and the production of hormones that cause anxiety or stress. Yoga also affects the hypothalamus to suppress CRH secretion, which will affect the anterior lobe of the pituitary gland to suppress ACTH hormone secretion, thereby decreasing adrenal hormone and cortisol production and instructing the anterior lobe of the pituitary gland to release endorphins (4). The yoga technique used to reduce anxiety here is the Suryanamaskar or sun salutation technique, which is a combination of yoga and pranayama that provides flexibility to the body. There are several techniques in this movement, namely: mountain Pose (tadasana/standing upright), mountain pose with hands together and standing upright as if praying, mountain Pose (padasana), uttanasana, ttanasana (standing forward bend), cobra pose, downward facing dog pose, uttanasana, mountain pose, lotus. The function of the Suryanamaskar yoga movement is to overcome anxiety (3), especially in pregnant women. Based on the above background, the researcher conducted a study on the Effectiveness of Yoga Suryanamaskar On Anxiety in Pregnant Women During The Covid-19 Pandemic. It is hoped that this study can provide an alternative midwifery care service for pregnant women to reduce anxiety during the COVID-19 pandemic.

## Methods

This study used online methods applied through Google Meet, providing Yoga Suryanamaskar videos the research designed pre-test and post-test techniques online. Sampling technique were taken using consecutive sampling, with 20 respondents divided into two groups, each consisting of 10 respondents. The subjects is pregnant woman. This online activity was conducted twice a week, with group I participating online on Tuesdays and Thursdays and group II participating on Wednesdays and Fridays. The dependent variable was Yoga Suryanamaskar, and the independent variable was the reduction in anxiety among pregnant women in facing the COVID-19 pandemic. The measurement tool used was an

online questionnaire for general data, including the age, occupation, and education of the respondents. This activity was conducted for one month, where before the Yoga Suryanamaskar treatment, respondents underwent a pre-test and post-test to determine their anxiety levels before the treatment using the DASS (Depression Anxiety Stress Scale). Data analysis used a paired sample t-test with a significance level of 0,05.

## Results

### General data

**Table 1 Respondent characteristics in the Kanigoro ds jatnom Community Health Center Working Area in 2021**

Criteria	Characteristics	R(respondent's)
Age	20-29	10
	30-39	5
	40-50	5
Education	Elementery School	5
	Junior High School	3
	Senior High School	10
	University	2
Occupation	Housewife	9
	Laborer	3
	Private	5
	Civil Servant	3
Pregnancy	First	10
	Second	5
	Third	2
	>3	3

Based on the table above, we can see that the age group 20-29 has the highest number of participants, namely 10 people, the highest level of education is high school with 10 people, the most common occupation is housewife, and the most common pregnancy is first child with 10 people.

### Special data

**Table 2 anxiety characteristics of respondents before performing suryanamaskar yoga on pregnant women**

Anxiety Level	f	%
Mild Anxiety	9	45%
Moderate Anxiety	11	55%

From Table 2 above, it can be seen that there were 9 people with mild anxiety, 11 people with moderate anxiety, and none with normal anxiety.

**Table 3 Anxiety characteristics of respondents after performing Suryanamaskar yoga on pregnant women**

Anxiety Level	f	%
Anxiety	13	65%
Mild Anxiety	7	35%
Moderate anxiety	0	0%

Table 3 above shows that there was a change from mild anxiety in 7 people and normal anxiety in 13 people after the suryanamaskar yoga treatment.

**Table 4 Descriptive numerical values and *paired t-test* results for respondents before and after the intervention**

Paired Samples Test		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Anxiety before treatment – Anxiety After Treatment	10,800	1,493	,394	10,003	11,597	15,463	20	,000

Based on Table 4 above, it can be seen that there was an average increase in anxiety levels before and after treatment of 10.8 points. The results of the *Paired sample t-test* obtained a value of  $p < \alpha$ , meaning that there was a significant difference in anxiety before and after treatment.

## Discussion

### Anxiety before performing Suryanamaskar yoga

The characteristics of the respondents in the Kanigoro ds jatnom Community Health Center area in this study show that the majority of pregnant women are aged 20-29 years old, with the highest level of education being high school graduates (10 people), and 11 people or 55% experiencing moderate anxiety. Anxiety symptoms related to pregnancy were as high as in previous studies, with an average anxiety score of 7.3 and 7.5 (5). Good prenatal care quality is a priority for pregnant women, and changes in care may increase anxiety symptoms.

This is because the COVID-19 pandemic has had a significant impact on the psychological condition of pregnant women. In addition, during the COVID-19 pandemic, there have been many restrictions on almost all routine services, including maternal and newborn health services. For example, pregnant women are reluctant to go to health centers or other health care facilities for fear of infection, there are recommendations to postpone prenatal check-ups and pregnancy classes, and there is a lack of readiness in terms of personnel and infrastructure, including personal protective equipment. This has caused maternal and newborn health services to be affected in terms of both access and quality (6).

Anxiety during pregnancy can arise due to physical changes and the mother's body's response in adapting to these changes. A person's level of anxiety also depends on their age, experience, and knowledge. The COVID-19 pandemic has caused anxiety in almost everyone (7). From the data above, it can be seen that most mothers are aged 20-29 years, which is the reproductive age where mothers can maximize pregnancy in terms of physical and mental health (5). At an age of over 35 years, pregnancy carries a high risk. This is because the mother's reproductive functions may not operate optimally, and pregnant women are more likely to experience complications such as hypertension, preeclampsia, eclampsia, premature birth, fetal distress, and poor fetal growth (8). For mothers who have been pregnant more than once, they tend to have more experience with pregnancy. This is because in previous pregnancies, the mother has already experienced pregnancy before, which greatly influences her readiness for pregnancy. They tend to be physically, mentally, and spiritually prepared to face their pregnancy. In the implementation of antenatal care, we know that visits should be made at least four times during pregnancy, namely once during the first trimester, once during the second trimester, and twice or more if there are other complaints during the third trimester (9). Based on several literatures, there is a description of the anxiety of TM III pregnant women in facing childbirth (10). Excessive anxiety during pregnancy can lead to stress and depression. Mothers with excessive anxiety are more likely to give birth prematurely and have impaired growth and development (11). From the results of research in the village of Jatinom, there were 10 pregnant women carrying their first child, indicating that most of these pregnant women did not understand and had no experience with pregnancy. This was especially true during the COVID-19 pandemic. This condition caused increased anxiety among mothers. From the results of the study, 11 pregnant women had moderate anxiety because they tended to be afraid to see health workers for fear of contracting COVID-19. We know that pregnant women have different immunity compared to the general population. In this condition, pregnant women are expected to have extra self-protection, especially to maintain their body's immunity to prevent COVID-19 transmission.

The respondents' occupations also influence their sources of information about COVID-19. Most of the respondents, approximately 10 respondents or 45% of them, were housewives. This is one of the factors that influenced pregnant women's anxiety about COVID-19 due to their low understanding of efforts to prevent COVID-19 infection during pregnancy because of false information in the wider community regarding transmission, treatment, and prevention of COVID-19. This is also one of the factors causing pregnant women to experience anxiety (12). Educational factors also influence the intake of information about the COVID-19 pandemic. The provision of incorrect information about the COVID-19 pandemic also affects the level of anxiety among pregnant women. In a study in Jatinom Village, Kanigoro District, 50% of respondents had a high school education.

### **Anxiety after practicing Suryanamaskar yoga**

From Table 3 above, we can see that the majority, or 65% (13 respondents), had normal anxiety levels. This shows that after practicing Suryanamaskar yoga, there was a change in anxiety levels. This is because when performing yoga movements, the hypothalamus affects the autonomic nervous system by decreasing sympathetic nerve activity and increasing parasympathetic nerve activity. Yoga inhibits the increase in the sympathetic nerves so that the amount of hormones that cause the body to be deregulated can be reduced.

The parasympathetic nervous system sends signals to influence the release of catecholamines. As a result, there is a decrease in heart rate, breathing rhythm, blood pressure, muscle tension, metabolic rate, and the production of hormones that cause anxiety or stress. Yoga also affects the hypothalamus to suppress CRH secretion, which will affect the anterior lobe of the pituitary gland to suppress ACTH hormone secretion, thereby decreasing adrenal hormone and cortisol production and instructing the anterior lobe of the pituitary gland to release endorphins (4). The yoga technique used to reduce anxiety here is the Suryanamaskar or sun salutation technique, which is a combination of yoga and pranayama that provides flexibility to the body. There are several techniques in this movement, namely: mountain pose (tadasana/standing upright), mountain pose with hands together while standing upright as if praying, mountain pose (padasana), uttanasana, uttanasana (standing forward bend), cobra pose, downward facing dog pose, uttanasana mountain pose, lotus. The function of the Suryanamaskar yoga movement is to overcome anxiety (3), especially in pregnant women. From the effects of Yoga Suryanamaskar above, it can also be seen from the statistical test that there was an increase in the average anxiety level before and after treatment of 10.8 points. The results of *the Paired sample t-test* yielded a value of  $\rho < \alpha$ , indicating a significant difference in anxiety levels before and after treatment.

This could also be due to the provision of good information from health workers about antenatal guidelines (pregnancy checkups) during the COVID-19 pandemic. The antenatal checkup guidelines provided by health workers include adapting to new habits. By adapting to new habits, it is hoped that the public's right to health services can be fulfilled (9), and with adequate services for pregnant women, risk factors can be identified early on. This very significant difference may also be due to the fact that the mental and spiritual condition of mothers is more relaxed due to the influence of the Suryanamaskar yoga movement. This is one alternative to reduce the anxiety experienced by pregnant women during the COVID-19 pandemic (13). Yoga meditation is a complementary therapy focused on the mind, which calms the soul and body mentally, thereby reducing anxiety and preparing the mind and spirit during pregnancy. Practicing yoga is a self-help method to reduce discomfort during pregnancy, help the labor process, and improve the mental health of pregnant women.(14). Yoga can produce endorphin hormones which are then captured by receptors in the hypothalamus and limbic system which function to regulate emotions, thereby reducing anxiety(15). There are several types of yoga for pregnant women known to healthcare providers, including prenatal gentle yoga and acuyoga. Prenatal gentle yoga incorporates relaxation and meditation to help reduce anxiety, while acuyoga combines yoga and acupressure, featuring slow, gentle yoga movements (16), (17). Acuyoga, apart from reducing anxiety, is also very effective for pregnant women who have high blood pressure, increasing the mother's blood flow to the fetus, and also reducing headaches felt by the mother (18)(19). So acuyoga with the Suryanamaskar technique is considered very beneficial for pregnant women both physically and psychologically (20).

## Conclusion and Recommendations

Based on the research conducted, 11 respondents(55%) experienced moderate anxiety, and 9 respondents(45%) experienced mild anxiety. After complementary therapy in the form of Suryanamaskar yoga was administered, 13(65%) respondents experienced normal

anxiety levels, and 7 respondents (35%) experienced mild anxiety. The Suryanamaskar yoga research was conducted in the village of Jatinom, Kanigoro sub-district, and ran smoothly. This activity was carried out for 1 month using an online method, divided into 2 groups, with 1 group consisting of 10 respondents (50%). This online activity was carried out twice a week, with group I conducting online sessions on Tuesdays and Thursdays and group II on Wednesdays and Fridays. The statistical results showed that there was a change after practicing Suryanamaskar yoga, with an average increase in anxiety levels before and after the treatment of 10.8 points. The results of the *Paired sample t-test* showed a value of  $p < \alpha$ , meaning that there was a significant difference in the anxiety levels of the respondents before and after the treatment.

In addition to routine checkups for pregnant women to detect complications early, health workers also need to provide alternative midwifery care in the form of Suryanamaskar Yoga therapy to reduce anxiety, especially among pregnant women. This therapy is recommended twice a week, where it is used for mental and spiritual preparation for pregnant women, especially in dealing with their pregnancy. In addition, health workers also need to provide accurate information about the COVID-19 pandemic. Adapting to new habits is information that needs to be conveyed to pregnant women in order to deal with the COVID-19 pandemic. In this case, cross-sectoral cooperation between the government, the private sector, and related agencies is needed in providing accurate information about the COVID-19 pandemic.

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