

The Influence of Antenatal Yoga on Decreasing Anxiety Levels in Primigravida Trimester I and II in Malang

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Keywords: Antenatal Yoga Anxiety Level, Primigravida Trimester I and II.

Abstract: Sunlight consists of ultraviolet (UV) light and based on its wavelength, the UV light could be categorized into UVA, UVB, and UVC. Organic Ultraviolet (UV) filters can be found in plants and fruits which have orange-red or pink colors, such as watermelon, tomato, Secang (*Caesalpinia sappan*), carrot, dragon fruit, faloak (*Sterculia quadrifida* R.Br), strawberry, papaya, and rosella. Most of these plants contain active compounds such as carotenoids and anthocyanin. Determination of the effectiveness of the extracts as potential sunscreen was carried out by determining the Sun Protecting Factor (SPF) value *in vitro* by UV spectrophotometry. Maceration technique was used for the extraction process by using ethanol with a ratio of 4:1. Each of dried extract (100 mg) was then mixed well in the ethanol (96%, 50 mL) until all the extract was dissolved and then filtered. The SPF values were determined by the Equation of Mansur. It was observed that all of the red pigmented extracts showed UV protection capabilities, with Secang extract gave the highest SPF value of 18.490. The Secang extract would have good potential to be developed as one of the ingredients in the sunscreen cream. Sunscreen cream combination between Secang extract and ZnO showed good quality and significant SPF value than ZnO and extract Secang sunscreen cream.

1 INTRODUCTION

Pregnancy is a complicated process that begins with conception or when a healthy sperm cell joins with an egg followed by fertilization, nidation, and implantation. A pregnancy usually lasts about 280 days or 40 weeks (9 months and 7 days). Pregnancy is divided into three quarters: first-quarter pregnancy (weeks 0 to 12), second-quarter pregnancy (weeks 13 to 28), and third-quarter pregnancy (weeks 28 to 40) (Sulistiyowati, 2012). According to Ida Bagus Gede Manuaba, pregnancy is a growth and development of the intrauterine fetus from conception up to early labor (Sunarsih, 2012).

Physical and psychological changes gradually during pregnancy from the first trimester to the third trimester might cause anxiety. According to (Astuti *et al.*, 2017), the most felt changes that require great adaptation is in the first trimester of pregnancy: appetite changes, nausea and vomiting, feeling exhausted, breast pain and gain weight.

Furthermore, psychological changes in the 1st-trimester mood swings, anxiety, financial and miscarriage worries, disappointment, rejection, depression, and decreased libido. Physiological changes in 2nd trimester are: leg swelling, constipation, indigestion/bloating, vulvar varicosities. Besides, psychological changes in the 2nd trimester are; (1) at the time before fetal movement felt: changing self-identity from the affection receiver into the giver, evaluating interpersonal relationships with her mother, and preparing to be a mother. (2) at the time when fetal movements felt: realizing that the fetus is a separate individual and needs to be cared for, focusing on pregnancy and fetal well-being, feeling healthier, being sad that she will leave her natural role and afraid her husband will not like her body shape. (Astuti *et al.*, 2017).

Physical and psychological changes in 1st-trimester pregnant women will have an impact on the subsequent pregnancy process especially those who have never experienced pregnancy (primigravida) (Fauziah, Purwono and Abdurachman, 2016). Factors

that can cause anxiety are age, parity, education, work, husband support, environmental conditions. However, 52% of pregnant women experience anxiety or depression during pregnancy (Anxiety and Depression Association of America, 2016).

The impact of anxiety is harmful for pregnant women. It can affect the health of the fetus and the mother. Around 33% of mothers have depression or anxiety during pregnancy. It will affect the baby, such as low birth weight, premature birth (before 37 weeks), low infant health level after delivered, poor adaptation to extrauterine life and respiratory problems. Thus, the risks experienced by mothers are suicide, depression or postpartum anxiety, alcohol or drug abuse, insufficient physical activity, preeclampsia, preterm labor, and cesarean delivery, Astuti, et al. (2017). Meanwhile, according to (Buss *et al.*, 2010) anxiety around pregnancy are prenatal maternal anxiety is related to distinctive patterns of structural brain development. Therefore the results suggest that addressing mothers' pregnancy-related concerns and anxiety as a focus for intervention.

UNICEF Indonesia's study in 2014 Indonesian Public Health book states that one woman dies during childbirth or due to pregnancy every one hour. (Wibowo and team (2014) in (Astuti *et al.*, 2017). In 2017, there were 5,113 pregnant women had been checked at Aisyiyah Hospital (Aisyiah, 2017). 4,573 of them went to the Gynecology Obstetrician and 540 to the KIA clinic. Pregnancy complications consist of 41 women miscarriage/abortion, 16 women pregnancy with preeclampsia, 17 women pregnancy bleeding, 24 babies born with premature conditions, 56 babies born weighing less than 2500 gram, and 351 labor with cesarean (Aisyiah, 2017).

According to the data above, the researchers provide a solution for pregnant women to maintain their physical and mental health using physical training, antenatal yoga. Yoga is an ancient practice that focuses on strength, flexibility, and respiration to improve physical and mental health. The main components of yoga are posture and breath. Yoga originated in India around 5,000 years ago and has been adapted in other countries in various ways.

The results showed yoga is a safe and effective way to increase physical activity, especially strength, flexibility, and balance. Some evidence shows regular yoga practice is beneficial for people who have high blood pressure, heart disease, aches and pains such as lower back pain, depression, and stress (Astuti *et al.*, 2017). According to (Field *et al.*, 2013; Mediarti *et al.*, 2014; Fauziah, Purwono and Abdurachman, 2016; Ashari, Pongsibidang and Mikhrunnisai, 2019) doing prenatal yoga regularly might reduce anxiety or

stress of pregnant women and reviews of prenatal yoga on reducing maternal discomfort during pregnancy and anxiety/stress. It will make pregnant women feel relaxed, both breathing and muscle. Antenatal Yoga influences the anxiety level of pregnant women in the third quarter of childbirth (Aswitami, 2017). Also, research related to yoga conducted on 94 pregnant women in Taipei shows the effect of reducing stress during pregnancy and boosting immunity (Chen *et al.*, 2017).

Based on phenomena in the yoga community, pregnant women can do exercise in second-trimester. Besides, based on "Mother's Care in Pregnancy" (Astuti *et al.*, 2017), women may do yoga in the first-trimester with only mild movements, by choosing the most comfortable posture. From the researcher's preliminary study result, from 10 primigravida pregnant women, 100% of them didn't know they may do antenatal yoga in the first quarter of pregnancy. 23 pregnant women who check their pregnancies at Aisyiyah Hospital Malang stated: 10 first trimester primigravida pregnant women (38.46%) felt anxiety caused by complaints of nausea, vomiting, and dizziness. Whereas out of 10 primigravida pregnant women in the second trimester, 7 pregnant women (26.92%) felt anxiety due to worries caused by complaints of lower back pain, insomnia, legs cramps, swollen feet, constipation, and 3 pregnant women (11.53 %) felt anxiety towards the condition of the baby (Aisyiah, 2017).

2 METHODS

This research applies *cross-sectional* design which is a type of research to study the dynamics of the correlation between risk factors and effects, through observation or data collection at a time (*point time approach*) (Notoatmodjo, 2012). This study was conducted in a group (One Group Pretest Posttest), to find out the effect of antenatal yoga on decreasing anxiety levels in primigravida pregnant women. Data were taken using a pre and post questionnaire carried out antenatal yoga to obtain significant data.

3 RESULTS AND DISCUSSION

The results of the influence of antenatal yoga on decreasing anxiety levels in trimester I and II primigravida at RSI Aisyiyah Malang measured using questionnaire sheets. The results of anxiety level

before doing antenatal yoga can be seen in Table 5.2 below:

Based on the results, it was found that most respondents had a severe anxiety level of 11 respondents or 68.75%, moderate anxiety level of 5 respondents or 31.25% of the total respondents and respondents who have mild levels of anxiety as many as 0 respondents.

Table 1: Respondents Characteristics in RSI Aisyiyah Malang from 4th to 26th June 2018.

| No | Characteristics | f | (%) | Min | Max |
|----|--------------------|----|-------|-----|-----|
| 1. | Age (years) | - | - | 20 | 31 |
| 2. | Level of education | | | | |
| | -Elementary | 0 | - | | |
| | - Junior high | 0 | - | | |
| | - Senior high | 12 | 75 | | |
| | - University | 4 | 25 | | |
| 3. | Occupation | | | | |
| | - Private | 15 | 93,75 | | |
| | - Public | 1 | 6,25 | | |

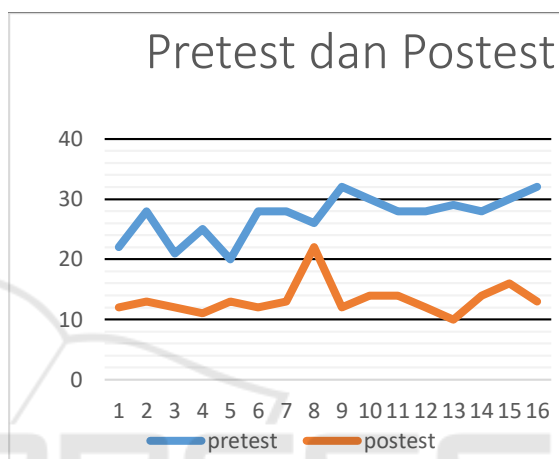
Table 2: Distribution of Anxiety Levels in Primigravida Trimester I and II Before doing Antenatal Yoga at RSI Aisyiyah Malang from 4th to 26th June 2018.

| Anxiety Level in Primigravida Trimester I and II | Frequency | Percentage (%) |
|--|-----------|----------------|
| Severe | 11 | 68,75 |
| Moderate | 5 | 31,25 |
| Mild | 0 | 0 |
| Amount | 16 | 100 |

The Wilcoxon Test analysis results using the SPSS program, it is stated that Z value = -3,530 with a significance level of 0,000 ($p < 0.05$), Sig value (2-tailed) \leq real level ($\alpha / 2$). It means that H_0 rejected. Thus it can be concluded "Antenatal Yoga Influence Anxiety Levels in Primigravida Trimester I and II at Aisyiah Hospital Malang". The Wilcoxon test results can be seen in Table 5.4 below.

Table 3: Distribution of Anxiety Levels in Primigravida Trimester I and II After Doing Antenatal Yoga at RSI Aisyiyah Malang on 4th to 26th June 2018.

| Anxiety Level in Primigravida Trimester I and Trimester II | Frequency | Percentage (%) |
|--|-----------|----------------|
| Severe | 0 | 0 |
| Moderate | 2 | 12,5 |
| Mild | 14 | 87,5 |
| Amount | 16 | 100 |



Picture 1: The Influence of Antenatal Yoga on Decreasing Anxiety Levels in Primigravida Trimester I and II at RSI Aisyiyah Malang.

Table 4: The Influence of Antenatal Yoga on Decreasing Levels of Anxiety in Primigravida Trimester I and II at RSI Aisyiyah Malang from 4 to 26 June 2018.

| Variable | Mean | SD | P Value | α |
|---|-------|-------|---------|----------|
| Anxiety level before doing antenatal yoga | 27,25 | 3.550 | 0,000 | 0.05 |
| Anxiety level after doing antenatal yoga | 12,75 | 1.238 | | |

The mean score of anxiety levels in primigravida trimester I and II before doing antenatal yoga is 27.25, the standard deviation is 3.550, and the minimum and maximum scores are 20 and 32. Whereas the mean of primigravida trimester I and II anxiety levels after doing antenatal yoga is 12.75, the standard deviation is 1.238, and the minimum and maximum scores are

10 and 15. Probability value = 0,000 and α value 0.05 so the P. value $<\alpha$ and Sig value (0,000) <0.05 . The H1 conclusion is accepted. Therefore, “Antenatal yoga influence on decreasing anxiety levels in primigravida trimester I and II in RSI Aisyiyah Malang”.

4 CONCLUSIONS

The mean score of anxiety levels in primigravida trimester I and II before doing antenatal yoga is 27.25, the standard deviation is 3.550, and the minimum and maximum scores are 20 and 32. Whereas the mean of primigravida trimester I and II anxiety levels after doing antenatal yoga is 12.75, the standard deviation is 1.238, and the minimum and maximum scores are 10 and 15.

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ACKNOWLEDGEMENTS

The researcher would like to thank all those who have provided guidance and support for this research.

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