The Effect of Prenatal Yoga on Life Satisfaction and Labour Self Efficacy in Women

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ABSTRACT

Around 10% of pregnant women in the world experience anxiety symptoms. Self efficacy contributes the most to anxiety symptoms. Self efficacy in the face of childbirth is one of the factors that play an important role in fighting the fear of childbirth. Fear of childbirth has a negative impact on the life satisfaction of pregnant women. This study aims to analyse the effect of prenatal yoga on life satisfaction and childbirth self-efficacy in pregnant women. The method in this study is Quasi Experimental Design with pretest-posttest control group design. This research was conducted in the Working Area of Puskesmas Mrican and Puskesmas Sukorame Kediri City. The research sample amounted to 40 respondents who were divided into two groups taken randomly. From the results of the Wilcoxon sign rank test in the intervention group life satisfaction and childbirth self-efficacy showed a p-value of 0.000. In the control group life satisfaction showed a p-value of 0.012 and self efficacy showed a p-value of 0.041. The results of the Mann-Whitney Test on life satisfaction in both groups showed a p-value of 0.049, while self efficacy in both groups showed a p-value of 0.004. It can be concluded that both groups show significant results, namely there is an effect of prenatal yoga on life satisfaction and childbirth self-efficacy and from both groups show significant results, namely there are differences between the two groups in pregnant women.

INTRODUCTION

Pregnancy is generally considered a physiological condition that undergoes interconnected physical and emotional changes (Boutib *et al.*, 2023) . Many women experience psychological well-being problems during pregnancy. Anxiety is the most common psychological problem during pregnancy that affects most pregnant women (Chauhan & Potdar, 2022) .

10% of pregnant women experience anxiety symptoms worldwide (WHO, 2020). In Indonesia, 28.7% of pregnant women experience anxiety (Indonesian Ministry of Health, 2020). In 2018, in East Java Province, 73.5% of pregnant women reported experiencing anxiety in late pregnancy.

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This factor is one of the psychological aspects that can affect the smooth delivery process (East Java Provincial Health Office, 2020) .

Anxiety and stress adversely affect the physical and psychological health of the mother and fetus and can result in the risk of preeclampsia (2-8%) (Karrar & Hong, 2023) , miscarriage (8-5%) (Fogarty et al., 2023) , preterm birth and fear of labour (5-40%) (Berhanu et al., 2022) .

Self efficacy contributes the most to anxiety symptoms (Ma et al., 2021) . 30-70% of pregnant women have low self-confidence during their pregnancy (Han & Kim, 2020) and 65% of pregnant women experience feelings of not being able to give birth, resulting in low self-efficacy in facing childbirth (Effati Daryani et al., 2023) .

Low *self-efficacy* causes a series of social and psychological problems, such as depression (9.2%), anxiety (95%) (Y. Yu et al., 2020) low maternal and fetal attachment (95%) (Meireles et al., 2022) . Pregnant women with high levels of anxiety experience the inability to do something so that it can reduce self-efficacy in labour (Gandomi et al., 2022) .

In overcoming anxiety related to childbirth self-efficacy, there are two ways of treatment, namely pharmacological and non-pharmacological (Thorsness et al., 2018). Pharmacological treatment must be careful and consider possible side effects (Migliorini et al., 2021) . Whereas non-pharmacological treatments such as behavioural activation, cognitive behavioural therapy, music therapy, relaxation during childbirth, aromatherapy during pregnancy and yoga training in the antenatal period (Domínguez-Solís et al., 2021) . Yoga is more suitable for pregnant women than other physical activities (Lin et al., 2022) . Yoga, emphasising the importance of body, mind and spiritual balance in human development, practiced during pregnancy would be an effective way to improve perceived self-efficacy when facing labour (Koyuncu & Bülbül, 2021) .

High *self-efficacy* can reduce the fear of labour. Pregnant women are prone to experiencing worry or fear that has the potential to have a negative impact on their health and quality of life. If not handled properly over a long period of time, this can hinder quality of

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life and reduce life satisfaction in pregnant women (M. Yu et al., 2020) . The association of maternal life satisfaction with the birthing process is an important measure of maternal quality of life. In developed countries 59% of pregnant women experience low quality of life (Pobee et al., 2022) . Life satisfaction is often used as a synonym for quality of life (M. Yu et al., 2020) .

The main factors associated with poor quality of life are complications before or during pregnancy and psychological well-being problems during pregnancy (Alzboon & Vural, 2019) . Pregnant women with poor quality of life in pregnancy are associated with negative health consequences. Low quality of life in pregnancy contributes to low quality of life in the postnatal period (Alzboon & Vural, 2019) . Previous research has shown that yoga interventions are helpful in improving overall quality of life by enhancing psychological and environmental health (Nadholta et al., 2023) , as well as yoga has proven benefits in coping with anxiety (Kishan, 2020) and shown that yoga practice can increase self-efficacy for labour (Koyuncu & Bülbül, 2021) .

In this study, prenatal yoga performed to face childbirth provides a positive thing when needed for the delivery process, both to increase life satisfaction in pregnant women and increase childbirth self-efficacy. This study shows a significant effect of prenatal yoga on life satisfaction and childbirth self-efficacy in pregnant women. It can be stated that prenatal yoga can help pregnant women in overcoming low self-efficacy in facing childbirth and improve the quality of life of pregnant women so as to cause *life satisfaction in* pregnant women.

RESEARCH METHODS

This study applied the Quasi Experimental Design method with a *pretest-posttest control group* design. The sample involved in the study consisted of 20 respondents in each group, so that the total number of samples reached 40 respondents, with the sampling technique using the *Simple Random* Sampling method that met the inclusion criteria with the intervention group conducted at the Mrican Health Centre which was given prenatal yoga treatment and the control group that did not get treatment was conducted at the Sukorame Health Centre.

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This study used the *Wilcoxon Sign Rank Test* statistical test to analyse the significance of differences in paired data. Meanwhile, for unpaired and non-normally distributed data, the *Mann-Whitney Test* was used.

The instrument used in the *Life Satisfaction* variable uses the WHOQoL-BREF (*World Health Organization Quality of Life-BREF)* questionnaire. The Indonesian version of WHOQOL-BREF is available and has been proven as a valid and reliable questionnaire for use in Indonesia (Purba *et al*., 2018) . While the instrument on the variable Self efficacy of childbirth using the Childbirth Attitude Questionnaire (CAQ) which has been tested The validity of the Indonesian version of the measuring instrument using 15 questions is declared valid with r> 0.514 while its reliability if it is above 0.60 then it is declared reliable. Cronbach's Alpha value = 0.951, then the measuring instrument is reliable

The research was conducted on 3 February 2024 - 2 March 2024 in the work area of Puskesmas Mrican Kediri City and conducted on 2 May - 20 May 2024 in the work area of Puskesmas Sukorame Kediri City.

This research has paid attention to ethical aspects of research by obtaining a research permit from the midwifery department of the Health Polytechnic of the Ministry of Health Malang with a letter number research permit:No.DP.04.03/F.XXI.31/0540/2024.

RESULTS AND DISCUSSION

Results

This study was conducted in the working area of Puskesmas Mrican and Puskesmas Sukorame Kediri City consisting of 40 respondents who were divided into two groups of third trimester pregnant women who fit the inclusion criteria with the following results:

Table 1. *Life satisfaction* before and after giving prenatal yoga in the intervention group

Life Satisfaction	**Intervention Group (n=20)**		***P-value***
	Pre-Test	***Post-Test***	
Very Poor Quality of Life	0	0	0.000
Poor Quality of Life	3	0	
Moderate Quality of Life	13	5	
Good Quality of Life	4	5	
Excellent Quality of Life	0	10	
Total	20	20	

Table 1 shows the results of measuring *life satisfaction* in pregnant

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women in the intervention group before and after prenatal yoga after the *Wilcoxon sign rank test* obtained a *p-value* = 0.000, in other words Asymp. Sig (2-tailed) <0.05, it can be concluded that H0 is rejected, this shows that *life satisfaction* in pregnant women is getting better after prenatal yoga is given to pregnant women.

Table 2. *Life satisfaction* before and after providing standardised care for pregnant women in the control group

Life Satisfaction	Control Group (n=20)		*P-value*
	Pre-Test	*Post-Test*	
Very Poor Quality of Life	0	0	
Poor Quality of Life	1	0	
Moderate Quality of Life	12	10	0.012
Good Quality of Life	3	5	
Excellent Quality of Life	4	5	
Total	20	20	

Table 2 shows the results of measurement of *life satisfaction* in pregnant women in this control group, respondents were not given interventions from researchers, the *Wilcoxon sign rank test* was carried out, the results obtained a *p-value* = 0.012, in other words Asymp. Sig. (2-tailed) <0.05.

The main aspects associated with better *life satisfaction* are average maternal age, primiparous/nulliparous, early gestational age, absence of social and economic problems, having family and friends, doing physical exercise, feeling happy during pregnancy and being optimistic (Lagadec *et al* .., 2018)

Table 3. Differences in *Life Satisfaction* in the Intervention Group and Control Group

Variables	Intervention Group (n=20)		Control group (n=20)		*P-value*
	Mean	±SD	Mean	±SD	
Life Satisfaction	75.50	±15.636	66.30	±12.397	0.049

Table 3 The results showed a difference in *life satisfaction* between the intervention group after prenatal yoga and the control group after standard care, which was analysed using the *Mann-Whitney Test*. This test yielded a p-value of 0.049, indicating a significant difference in *life satisfaction* in both groups of pregnant women.

This study is in line with previous research that the average score of *life satisfaction* in pregnancy was significantly higher in the intervention group than the control (Golshani *et al* .., 2021)

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Table 4. Labour *Self Efficacy* Before and After Prenatal Yoga in the Intervention Group

Self Efficacy	Intervention Group (n=20)		*P-value*
	Pre-Test	*Post-Test*	
Very Low	1	0	
Low	18	1	
High	1	17	0.000
Very High	0	2	
Total	20	20	

Table 4 shows the results of the measurement of childbirth *self-efficacy* in pregnant women in the intervention group before and after being given prenatal yoga after the *Wilcoxon sign rank test* obtained a *p-value* = 0.000, in other words Asymp. Sig (2-tailed) <0.05, it can be concluded that H0 is rejected, this shows that the *self efficacy of* childbirth in pregnant women is getting better after being given prenatal yoga to pregnant women.

Table 5. Maternity *Self Efficacy* Before and After Providing Standardised Care for Pregnant Women Class in the Control Group

Self Efficacy	Control Group (n=20)		*P-value*
	Pre-Test	*Post-Test*	
Very Low	0	0	
Low	7	9	
High	8	7	0.041
Very High	5	4	
Total	20	20	

Table 5 shows the results of measuring *self-efficacy* in pregnant women in this control group, respondents were not given intervention from the researcher, the *Wilcoxon sign rank test* was obtained *p-value* = 0.041, in other words Asymp. Sig. (2-tailed) <0.05.

The results showed that *self efficacy* decreased compared to before the standardised care of pregnant women class in the control group. Previous studies have shown that lower *self-efficacy* scores were reported in participants who obtained knowledge about labour and birth from family and friends. This may be due to the lack of access to accurate information and negative stories about childbirth that make them more influenced by the experiences of others. The results are in line with previous studies that concluded lower *self efficacy* was associated with fear and anxiety leading up to labour (AlSomali *et al*., 2023)

Table 6. Differences in childbirth *self-efficacy* between intervention and control groups

Variables	Intervention Group (n=20)		Control group (n=20)		*P-value*
	Mean	±SD	Mean	±SD	
Self Efficacy	47.40	±4.477	40.25	±7.144	0.004

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Table 6 shows the difference in childbirth *self-efficacy* in the two groups, namely the intervention group given prenatal yoga and the control group getting standard care, the *mann-whitney test* was conducted. The results of the *mann-whitney test* on the *self efficacy of* the two groups showed significant results, namely a *p-value of* 0.004. This shows that there are differences in *self efficacy* in both groups in pregnant women

Self efficacy during childbirth is influenced by various factors. According to Lowe, *self-efficacy* is influenced by achievement, verbal persuasion (suggestions that can overcome obstacles and problems that will be faced), emotional arousal (feelings that are able to influence a person's behaviour, which is influenced by internal and external factors) (Gemeda Gudeta *et al* .., 2023)

Discussion

Life satisfaction before and after giving prenatal yoga in the intervention group showed that *life satisfaction* in pregnant women increased after being given prenatal yoga interventions involving pranayama breathing, also called deep breathing as a deliberate breathing movement used in every yoga practice. Slow breathing activates the parasympathetic nerves (a network of nerves that relaxes the body), which are also responsible for stretching the tissues in the lungs and the vagal nerve (the main nerve of the parasympathetic nervous system), on the other hand pranayama movements also activate autonomic nervous responses and reduce cortisol levels. Pranayama has also been shown to reduce sleep disturbances that are common among pregnant women. In addition, a positive correlation was shown by Asana (Yoga Postures) in increasing Gamma Amino Butyric Acid (GABA) levels in the brain which can improve mood in pregnant women (Aflahiyah *et al*., 2020) and can improve physical, psychological, and social health quality of life domains more than physical exercise (Patil *et al.*, . 2018)

Self Efficacy of Childbirth Before and After Giving Prenatal Yoga to the Intervention Group shows that *Self efficacy of* childbirth has increased after being given an intervention in the form of prenatal yoga to pregnant women. Yoga, emphasises the importance of balance of body, mind in human development. The first stage of yoga practice, pranayama, is a

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breathing-based method that provides breathing control. In contrast, the second stage of yoga practice, asana, is an exercise that allows active and passive muscle participation. Meditation, the last stage of yoga practice, helps pregnant women feel healthy and let go of negative thoughts. yoga, through breathing exercises (pranayama), physical movements (asanas), and meditation, helps reduce physical and psychological stress, and increases the perception of *self efficacy* facing labour (Koyuncu & Bülbül, 2021) .

Serotonin, known as a hormone that supports mental health, is able to prevent anxiety, mood swings, or depression, and can be produced naturally by the body. Serotonin (5-hydroxytryptamine, 5-HT) plays two important roles in humans, one central and peripheral on both sides of the blood-brain barrier. In the central nervous system, it acts as a neurotransmitter, controlling brain functions such as autonomic nervous activity, stress response, body temperature, sleep, mood and appetite. Some ways to increase serotonin release can be produced naturally through activities such as exercise, massage, sunbathing, and meditation or yoga. During pregnancy, yoga is beneficial in lowering anxiety levels, increasing *self-efficacy* in facing labour, reducing physical complaints, and preventing an increase in various symptoms. In addition, yoga has a statistically significant effect on reducing anxiety (Jayanti & Mayasari, 2023; Kanova & Kohout, 2021) .

CONCLUSIONS

Based on the analysis of the results and discussion of the provision of prenatal yoga on *life satisfaction* and *self efficacy of* childbirth in pregnant women, it can be concluded that:

1. *Life satisfaction* experienced changes before and after being given prenatal yoga in the intervention group in pregnant women
2. *Life satisfaction* experienced changes in the control group in pregnant women
3. There is a difference in *life satisfaction* in the intervention group and the control group
4. *Self efficacy* experienced changes after being given prenatal yoga in the intervention group in pregnant women

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5. *Self efficacy* experienced changes in the control group in pregnant women
6. There is a difference in *self efficacy* in the intervention group and the control group

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