



## **The effect of yoga movements in reducing complaints symphysis pubis dysfunction in pregnancy**

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### **ABSTRAK**

**Latar Belakang:** Kasus persalinan section caesarea tahun 2018, tertinggi di Jakarta dengan Persentase 31,3% sedangkan wilayah Papua hanya 6.7%. Penyebab terjadinya kelahiran SC antara lain, panggul sempit, disproporsi kepala janin, mal posisi janin, dan gangguan penurunan kepala janin yang seringkali menimbulkan keluhan Symphysis Pubis Disfungsi (SPD). Ibu hamil perlu memberdayakan dirinya guna meningkatkan rasa percaya diri dalam menghadapi proses kehamilan sampai persalinan. Menurut penelitian latihan yoga selama hamil dapat mengurangi keluhan kehamilan. Selama pandemic Covid-19 ibu hamil terbatas untuk melakukan aktivitas di luar. Diperlukan media yoga secara mandiri yang aman, mudah dipahami, sebagai pedoman untuk ibu hamil, baik dalam bentuk video, flash card, spin card, dan kartu gambar gerakan yoga praktis.

**Tujuan:** Untuk mengetahui efektifitas daripada gerakan yoga dalam mengatasi keluhan symphysis pubis disfungsi pada kehamilan.

**Metode:** Penelitian ini merupakan kuasi eksperimen dengan desain penelitian one group pre-test design yang mana mengungkapkan hubungan sebab akibat dengan melibatkan satu kelompok subyek. Responden terdiri dari 25 ibu hamil yang memasuki usia kehamilan trimester III dengan kriteria inklusi ibu hamil yang mengalami symphysis pubis disfungsi sebelum intervensi. Intervensi yang akan dilakukan yakni mengukur skala nyeri, mencetak kartu gerakan yoga, mengajarkan, dan melakukan yoga selama 4 kali dalam 1 bulan.

**Hasil:** Diketahui jumlah responden sebelum intervensi dilakukannya yoga sebagian besar pada kategori nyeri ringan (36%) dan sedang (28%). Setelah dilakukan intervensi jumlah responden sebagian besar pada kategori tidak nyeri (44%). Pada responden dengan kategori nyeri berat sebelum intervensi (16%) turun menjadi (8%) post intervensi. Hasil uji statistik menggunakan uji Wilcoxon diperoleh hasil  $p=0,036$  dimana nilai ini dibawah 0,05 yang artinya ada pengaruh gerakan yoga dalam mengurangi keluhan symphysis pubis disfungsi pada kehamilan.

**Kesimpulan:** Terdapat pengaruh gerakan yoga dalam mengurangi keluhan symphysis pubis disfungsi pada kehamilan. Ada perubahan yang signifikan pada ibu hamil sebelum dan setelah dilakukan intervensi. Ibu hamil dianjurkan untuk melakukan yoga secara rutin guna mengurangi keluhan kehamilan.

**KATA KUNCI :** kehamilan; section caesarea; symphysis pubis disfungsi; yoga; bidan

### **ABSTRACT**

**Background:** The incidence of Section Caesarea (SC) based on the results of the 2018, states that the highest prevalence is in the DKI Jakarta area with a percentage reached 31.3% while the Papua region percentage is only 6.7%. It is known that the causes of birth with CS include, a narrow pelvis, disproportion of the fetal head, malposition of the fetus, and disorders of the descent of the fetal head which often cause complaints of symphysis pubis dysfunction (SPD). Every pregnant woman needs to empower herself to increase

her self-confidence in facing the pregnancy process until before delivery. Several studies have stated that practicing yoga during pregnancy can reduce pregnancy complaints. During the Covid-19 pandemic, pregnant women were limited to doing activities outside the home. In this case, independent yoga media is needed that is safe, easy to understand, and as a guide for pregnant women, both in the form of videos, flashcards, spin cards, and picture cards of practical yoga movements.

**Objectives:** To find out the effectiveness of yoga movements in dealing with complaints of symphysis pubis dysfunction in pregnancy.

**Methods:** This research method uses quasi-experimental research with a one-group pre-test design which reveals a causal relationship involving one group of subjects. Respondents consisted of 25 pregnant women entering the third trimester of pregnancy with the inclusion criteria of pregnant women experiencing dysfunction of the symphysis pubis before the intervention. The interventions that will be carried out are measuring pain scales, printing yoga movement cards, teaching, and doing yoga 4 times in 1 month.

**Results:** It is known that the number of respondents who did yoga before the intervention was mostly in the mild pain category (36%) and moderate (28%). After the intervention, the majority of respondents were in the no-pain category (44%). Respondents with severe pain before intervention (16%) decreased to (8%) post-intervention. The results of statistical tests using the Wilcoxon test obtained  $p = 0.036$  where this value is below 0.05, which means that there is an effect of yoga movements in reducing complaints of symphysis pubis dysfunction in pregnancy.

**Conclusions:** From the results of the research that has been done, it can be concluded that there is an influence of yoga movements in reducing complaints of symphysis pubis dysfunction in pregnancy. There were significant changes in pregnant women before and after the intervention. Therefore pregnant women are encouraged to do yoga regularly to reduce complaints of pregnancy discomfort which can interfere with the delivery process.

**KEYWORD:** pregnant; section caesarean; symphysis pubis dysfunction; yoga; midwife

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## INTRODUCTION

A natural process experienced by a woman, namely pregnancy is a physiological condition that requires midwifery care holistically to evaluate the health of the mother and fetus in order to identify, prevent and treat discomfort before pathological matters occur (1). The body shape of pregnant women gradually changes according to the weight gain and size of the fetus, these changes often cause complaints of pain and discomfort (2). Several factors can influence the onset of complaints of back pain and pubic bone pain during pregnancy including changes in body posture, weight gain, and stretching of the ligaments. *Symphysis Pubic Dysfunction*

(SPD) is a pregnancy complaint that causes pain above the hip joint and groin to the lower back and causes discomfort when doing activities and disrupts the mother's rest(3).

This corresponds to an increase in cases *section caesarea* according to WHO (2019) the incidence rate *section caesarea* in Mexico in the last 10 years from 2007-2017 it has increased from 43.9% to 45.5%. The increasing proportion of delivery methods with *section caesarea* becomes a matter that requires attention because the impact that occurs if it is carried out without any medical indication will affect the health of the mother and baby. Regions with the highest proportion

of SC delivery methods were in DKI Jakarta, reaching 31.1%, while the Papua region was only 6.7% (4). The factors that cause SC deliveries include disproportion of the head pelvis, disorders of the baby's head descent, long first stage of labor, abnormalities in the position of the fetus, and disorders of the baby's head descent which support the basic needs of pregnant women in reducing complaints *symphysis pubic dysfunction* (SPD) (5). According to Stoppard, the best exercise that can be done during pregnancy to prepare for labor is yoga. Yoga practice focuses on muscle control, relaxation techniques, and brain tension. Yoga is needed by pregnant women to reduce complaints of pain and discomfort that arise during pregnancy, especially before delivery. Yoga practice empowers every pregnant woman to get to know herself better through body posture recognition, meditation, relaxation techniques, and breathing (6).

Based on the results of previous research, it was stated that before it was carried out *prenatal care yoga*, most of the discomfort felt by mothers was back pain in as many as 21 people (65.6%) and after prenatal care yoga training 4 times for 4 consecutive weeks the respondents felt a reduction in discomfort totaling 15 people (46.9%) (7). While the results of other studies state that regular yoga exercises during pregnancy can reduce/reduce the discomfort of third-trimester pregnancy compared to irregular yoga exercises (8).

The care provided by midwives to reduce discomfort is by doing yoga for pregnant women, one of the safe physical exercises for the mother and fetus, yoga is usually done every day to train the mother's breathing,

physically and psychologically. The implementation of yoga for pregnant women must be accompanied by a competent facilitator. During the Covid-19 pandemic, pregnant women had difficulty doing yoga at health facilities. Based on the results of a maternal and neonatal audit survey in Bantul district in 2021, the Banguntapan I Health Center has a target of 58 pregnant women, K1 and K4 coverage <75% which should reach >90% of the decreased coverage for fear of exposure to the Covid-19 virus as well as for antenatal care the integrated program has not been carried out and the pregnancy class has been temporarily abolished due to the ban on crowds, the components of the pregnancy class include pregnancy exercise. Based on interviews with pregnant women, out of 10 pregnant women there were 4 pregnant women (40%) who had no complaints and had never done yoga. 2 pregnant women (20%) said they complained of pubic bone pain and the mothers did yoga by looking at them *youtube*, but felt confused about safe movements, and 4 pregnant women (40%) said pubic bone pain did not know how to handle it.

In overcoming these obstacles, independent yoga media is needed which is safe for pregnant women. The media can be in the form of *card* yoga that pregnant women can do at home with monitoring from a yoga facilitator. Based on this background, the researcher formulates the problem of how effective yoga movements are in reducing complaints *symphysis pubic dysfunction* in pregnant women. The purpose of this study was to determine the effectiveness of yoga movements in dealing with complaints *symphysis pubic dysfunction* in pregnancy. as

well as the benefits of this research for patients in order to determine the correct yoga movements. So it's safe to do it independently. Families, they can participate, support, and provide assistance in choosing yoga movements for pregnant women.

## MATERIALS AND METHODS

This study uses a type of experimental research in which researchers control/treat exposure (9). Based on whether there is treatment, this study uses research *pra experimental* with a type *one group pretest-posttest design*. the subject group was

observed pre-intervention, then observed again post-intervention, and explicitly stated a causal relationship (10). The tools and materials used to support this research are using yoga movement cards in coping with *symphysis* pubic dysfunction, pain scales, and yoga tools (mattresses, blocks, and straps). The population sample of this study collected 25 pregnant women with inclusion criteria: pregnant women in their third-trimester *symphysis* pubic dysfunction. The intervention provided printed yoga movement cards, taught pregnant women how to do yoga, 4 times in 1 month, and then measured changes in pain after pregnant yoga was done.

**Table 1. Research design on the effect of prenatal yoga on back pain in third trimester pregnant women**

Subject	Pre	Treatment	Post
K	O1 Time 1	X Time 2	O2 Time 3

Information:

O1: Observe pain *symphysis* pubis dysfunction before yoga

X : Intervention

O2: Observation of back pain after yoga

To achieve the predetermined research objectives, this research has been

organized into several research stages as described in **Table 2** as follows:

**Table 2. Research Stages**

Level	Steps	Indicator
Data collection and analysis	Collect data on problems of pregnant women Collect data on the number of pregnant women who do yoga Print card yoga movement for complaints <i>symphysis</i> pubis dysfunction that as been HAKI	Problem Data Data on pregnant women at the Banguntapan II Health Center Data on the discomfort of pregnant women Register pregnant women who experience SPD
System Implementation	Measuring the pubic bone pain scale of pregnant women who have not done yoga Fill out the pain scale questionnaire <i>symphysis pubic</i> with numeric rating scale (NRS). Teaching pregnant mothers yoga using card yoga movement Measuring back pain after doing yoga	All respondents received a pain measurement questionnaire Questionnaires have been used by researchers before

## RESULTS AND DISCUSSION

### RESULTS

Based on the research results, it can be seen that the data presented in the following

table and description, based on **Table 3**, the distribution of the number of respondents based on pregnancy status is almost the same in all categories.

**Table 3. Distribution of respondents based on pregnancy status**

Pregnancy Status	Frequency (n)	Percentage
Primi Gravida	9	36
Multi Gravida	9	36
Grandemulti Gravida	7	28
Amount	25	100

Based on **Table 4**, it can be seen that the majority of respondents with junior high

school education have the highest percentage of 36%.

**Table 4. Distribution of respondents by education status**

Education Status	Frequency (n)	Percentage
Elementary School	3	12
Junior High School	9	36
Senior High School	7	28
College of University	6	24
Total	25	100

Based on **Table 5** the distribution of the number of respondents based on employment status can be seen that the

majority of respondents have jobs as private employees of 48%.

**Table 5. Distribution of Respondents by Employment Status**

Employment Status	Frequency (n)	Percentage
Housewife	5	20
Private	12	48
Entrepreneur	4	16
Civil Servant	4	16
Total	25	100

Based on **Table 6**, it can be seen that the number of respondents before doing yoga activities was mostly in the category of mild pain and moderate pain, namely 36%, and 28%. However, after the yoga intervention was carried out, the majority of respondents were in the no-pain category, 44%. In addition, respondents with severe

pain before the intervention decreased by 16% to 8% after the intervention. The results of statistical tests using the Wilcoxon test obtained  $p = 0.036$  where this value is below 0.05, which means that there is an effect of yoga movements in reducing complaints *symphysis* pubic dysfunction in pregnancy.

**Table 6. Variable cross-tabulation results**

Painful <i>Symphysis</i> Pubis	Pre Test		Post Test		<i>p</i> - <i>value</i>
	Frequency (n)	Percentage	Frequency (n)	Percentage	
No Pain	5	20	11	44	0.036
Mild Pain	9	36	7	28	
Moderate Pain	7	28	5	20	
Severe Pain	4	16	2	8	
Total	25	100	25	100	

## DISCUSSION

Based on the results of the study that pregnant women who do prenatal yoga at the initial measurement of pregnant women experience complaints of pain *symphysis pubis* by 36% in the mild pain category. After doing prenatal yoga 4 times, there was a decrease in pain, from the initial majority being mild pain to no pain at 44%. Research data also shows the effect of yoga movements in reducing complaints of *symphysis pubis* dysfunction in pregnancy with a *p*-value of 0.036, which means that if pregnant women do yoga activities, SPD pain will also decrease.

The results of Palifiana et al research showed that there was an effect of prenatal yoga on reducing pubic symphysis pain in third trimester pregnant women with a *p*-value of 0.000. Pubic symphysis pain in pregnant women who do prenatal yoga is mostly in the mild pain category of 35%, while pregnant women who do not do prenatal yoga mostly experience pubic symphysis pain in the severe category of 30% (11).

*Symphysis pubis dysfunction* (SPD) or *Pain Girdle Pelvis* (PGP) is a condition that causes pain in one or more hip joints and difficulty walking, most commonly associated with pregnancy *symphysis pubis dysfunction* It can be caused, among other things, during pregnancy there is an increase in the amount

of the hormone relaxin which causes softening of the ligaments throughout the body, as a result, the muscles around the lower back and pelvis have to work harder to support the body and in some cases resulting in pain, the pelvic muscles that normally support the pelvis do not work as effectively as when not pregnant because the baby's weight presses on the pelvic floor(12).

In accordance with previous research conducted, the incidence of Pelvic Girdle Pain, which is one of the pelvic pains that occurs during pregnancy towards the end of the 2nd trimester to the 3rd trimester, can be reduced by focusing on relaxing the muscles or ligaments around the pelvis so that pain can be reduced. There was a significant effect of prenatal yoga on hip pain relief in the intervention group. The mean difference is -2.130 (95%CI=-2.583, -1.657), the *p*-value is 0.000 (13). Yoga is a form of complementary and alternative medicine that incorporates a fluid transition through a number of poses (Asanas), to promote improvements in joint range of motion, flexibility, muscular strength and resistance, balance, concentration and selfconfidence, and a series of breathing exercises (Pranayamas) that facilitate mental relaxation and introspection (14).

In case the pain *symphysis pubis* during pregnancy can make the condition of pregnant

women uncomfortable and cause mood changes. The mood is the biggest problem found because this problem can change the perception of health in general for pregnant women who experience pain *symphysis pubis*. Stress due to not being able to carry out daily tasks as a mother and communication with partners and family becomes less harmonious because the mother thinks she is unable to care for herself and her family and the mother cannot live her pregnancy comfortably(15).

Based on research by De Soussa et. al. found a significant difference between active and sedentary pregnant women. Pregnant women who are sedentary have a 30% chance of experiencing a higher pain intensity compared to pregnant women who are active regardless of the gestational age entering the third trimester and weight gain There is no significant relationship between body weight and pain intensity ( $r = 0,03$  |  $P = 0,28$ )(16).

According to researchers, pelvic pain can reduce sleep quality during pregnancy. Yoga practice is also useful for reducing tension in the body, mind and mind so that pregnant women are more comfortable going through their pregnancy process and are confident going into labour (17). Gentle yoga movements, through body and mind synchronization, can produce a lot of the hormone relaxin, so this is useful for providing comfort and improving the quality of sleep for pregnant women. Based on research, the quality of sleep for pregnant women is good, starting from when pregnant women go to bed and wake up in the morning without waking up in the middle of the night for a duration of >7 hours per day(18).

## CONCLUSION AND RECOMMENDATION

Based on the discussion that has been described previously, conclusions and suggestions can be drawn. There is the influence of yoga movements in reducing complaints *symphysis pubis dysfunction* (SPD) in pregnancy. Suggestions for further development of this research there are several suggestions that can be taken: Pregnant women are encouraged to do yoga regularly to reduce complaints of pain during pregnancy. Health workers can carry out health promotion and socialize the benefits of yoga to pregnant women who check at health services.

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