

## THE EFFECT OF YOGA GYMNASTICS ON MENSTRUAL PAIN LEVELS ON ADOLESCENT WOMEN IN JAKARTA HIGH SCHOOL

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### ABSTRACT

*Adolescence is a transitional phase from children to adults, who will go through physical, psychological, social development as well as the development of signs of wrong secondary sex changes, namely the functioning of the reproductive organs marked by menstruation. Girls will experience ovulation and menstruation. Which will be accompanied by menstrual pain. This study aims to determine the effect of yoga exercise on menstrual flow in adolescent girls at SMA Jakarta. The design of this study was pre-experimental with a one group pretest-posttest design. The population of this study were all adolescent girls in grade X who experienced menstrual pain at SMA Jakarta the sample in this study was 105 students with total sampling technique. The research analysis used the Mann-Whitney U Test were obtained with  $p = 0,000$  while the Wilcoxon Sign test showed  $p = 0,000$ . This research concludes that there is an effect of yoga on the menstrual flow in adolescent girls at SMA Jakarta.*

*Keywords: adolescent girls, menstrual pain, yoga exercise.*

### 1. INTRODUCTION

An adolescent is a person who is transitioning from childhood to young adulthood. Adolescents undergo psychological, physical, and emotional changes. Development and growth in adolescence will be tied to the puberty-related adolescent phenomenon. Puberty is a significant period of adolescence, with a focus on biological issues leading to the degree of reproductive capacity (Aryanie, 2014). Adolescent girls have begun menstruation, while teenage boys have begun to make sperm. Menstruation in adolescent girls is typically associated with pathological issues that can impede daily activities. Dysmenorrhea is the medical term for menstrual discomfort that can range from mild to severe during menstruation (Sari, 2018). Adolescent girls have begun menstruation, while teenage boys have begun to make sperm. Menstruation in adolescent girls is typically associated with pathological issues that can impede daily activities. Dysmenorrhea

refers to menstrual discomfort that ranges from mild to severe and is experienced by women during menstruation (Sari, 2018).

Data from the World Health Organization (WHO) indicate that the prevalence of dysmenorrhea is quite high, with over fifty percent of women of reproductive age experiencing monthly discomfort in every country. In the United States, 90 % of women suffer dysmenorrhea, and 10 to 15 % have severe dysmenorrhea that prevents them from performing any activity. In Indonesia, the incidence of dysmenorrhea is 64.25 %, comprised of 54.89 % primary dysmenorrhea and 9.36 % secondary dysmenorrhea. 60 to 70 % of adolescents experience primary dysmenorrhea; three-quarters of these adolescents experience mild to severe dysmenorrhea and one-quarter experience severe dysmenorrhea discomfort (Rini, 2020). There are two strategies to alleviate menstruation pain in adolescents: pharmaceutical and non-pharmacological approaches. Pharmacologically, by using analgesic

medicines, nonsteroidal pharmaceuticals, prostaglandins, and hormonal therapy; nonpharmacologically, by performing yoga exercises, massage, and warm compresses (Dewi Khusnul Khotimah, 2019).

Yoga is a strength-building technique that emphasizes relaxation exercises, breathing, and body positions. A number of yoga postures, including upavistha konasana, buddha kosana, janu sirsana suptha baddha kosana, and madhasana, might alter the pattern of a person's pain to make it more tolerable or redirect it (Manurung, 2015).

When practiced, yoga improves general health, increases body flexibility, strengthens muscles, and can also promote physical fitness and relieve pain. Therefore, yoga can help the mind and body adjust to stress so that individuals can feel calm and comfortable (Prabhu et al., 2019).

Initial interviews with young women at SMA Jakarta revealed that 4 students had monthly pain on a range of 1 to 3 (mild pain), 4 students experienced menstrual pain on a scale of 4 to 6 (moderate pain), and 2 students experienced menstrual pain on a scale of 4 to 6 (severe pain) (moderate pain). who have moderate to severe menstrual pain (severe pain). As part of

their care, patients, among other things, rest and take painkillers. This research was carried out to examine the effect of yoga exercise on the amount of menstrual discomfort in SMA Jakarta adolescent girls.

## 2. METHOD

This is a quantitative study employing a pre-experimental design with *one group pre- and post-test*. This research was conducted on SMASMA students in Jakarta during January and February of 2022. The total sample size was 105 students from the student population. Before and after the 1-time-per-week yoga exercise intervention for 6 weeks, data collection was used in this research. Google Form was used for the data gathering technique in this investigation. In this research, the *Wilcoxon* and *Mann-Whitney* tests were utilized. This study has been approved by the STIK Ethics Commission. Sint Carolus with research permit No. 366/Riset.Akd.Eks/S1 Kep/I/2022.

## 3. RESULTS

### 1. Univariate Analysis

Table 1

Frequency distribution of respondents based on menstrual pain before and after doing yoga gymnastics at High School of Jakarta

Menstrual Pain	Pre-test		Post-test	
	n	(%)	n	(%)
Mild Pain	56	53.30	76	72.40
Moderate Pain	32	30.50	27	25.70
Severe Pain	17	1.2	2	1.90

According to table 1, the majority of female high school students in Jakarta experienced mild menstrual pain (scale 1-3) as many as 56 respondents (53.3%), nearly half experienced moderate menstrual pain (scale 4-6) as many as 32 respondents (30.5%), and a small proportion experienced severe menstrual pain (scale 7-9) as many as 17 respondents (16.2%) prior to the yoga exercise.

After performing yoga, the majority of respondents experienced mild menstrual pain (scale 1-3) as many as 76 respondents (72.4%), nearly half experienced moderate menstrual pain (scale 4-6) as many as 27 respondents (25.7%), and a small proportion experienced severe menstrual pain (scale 7-9) as few as 2 respondents (1.9%).

Table 2

Distribution of the number of respondents according to yoga gymnastics compliance at High School of Jakarta

Yoga Gymnastics	n	(%)
Obedient	99	94.30
Disobedient	6	5.70
Total	105	100

Based on table 2, it was determined that the majority of yoga exercise intervention data for high school-aged women in Jakarta were compliant. As many as 94.3% of respondents (99 out of 100) were obedient

in the sense of practicing yoga once each week for 6 weeks. As many as 6 respondents (5.7%) reported noncompliance if they had practiced yoga for fewer <6 weeks.

## 2. Bivariate Analysis

Table 3

The average difference in menstruation pain before and after the intervention with yoga exercise adherence at High School Jakarta.

Variables	Average Pre-test	Average Post-test	Difference	P value
Obedient	52.90	50.61	2.29	0.00

Based on the Mann-Whitney statistical test data with a p value of 0.00, which indicates  $0.00 < 0.05$ , it can be concluded that  $H_0$  is rejected, indicating that there is a difference

in the average degree of menstruation pain before and after the yoga adherence intervention.

Table 4

The effect of yoga gymnastics on the level of menstrual pain before and after the intervention in young women at High School of Jakarta

Variable	Pre-test	Post-test	Difference	P value
	Freq	Freq		
Mild pain	56	76	20	
Moderate pain	32	27	5	
Severe pain	12	2	10	0.00

According to table 5.5, there is a mean menstrual pain scale value before and after the yoga exercise intervention. The Wilcoxon sign rank test results indicate that  $p = 0.000$ , which refutes the null hypothesis that yoga exercise had no effect on the amount of menstruation pain in adolescent females before and after the intervention.

#### 4. DISCUSSION

The results of this research are consistent with those of Yuliastuti's (2016) research, which found a  $p = 0.00$  effect of yoga practice on menstruation discomfort in adolescents. Menstrual pain in young women might interfere with daily activities and focus. Yoga is one of the non-pharmacological methods that can be used to alleviate or eliminate menstrual pain. Adolescents who practice yoga can minimize menstruation discomfort and prevent menstrual pain from occurring.

This research is also confirmed by a research conducted by Kock et al., (2020), which indicates that yoga exercises reduce menstruation discomfort with a P value of  $0.0005 < 0.05$ . A relaxed body condition during yoga exercises will prevent the creation of the hormone adrenaline and hormones required during pain, therefore relaxation is essential for the body to lessen menstruation pain. Imaroh (2018) did a research study on the impact of yoga exercises on menstruation pain and found

that there were changes before and after performing yoga activities.

In their research, Yulina et al. (2020) noted that the series of movements performed in yoga during menstruation is a position that can relax the inside of the abdomen, including the reproductive organs, in order to alleviate monthly pain. Using a p-value of 0.000, the results demonstrated that yoga can significantly reduce menstruation discomfort. Adolescents who endure menstruation discomfort may find relief via yoga activity, which won't interfere with their ability to participate in school activities or their ability to learn. Yoga gymnastics can be easily practiced by adolescents or students because it does not demand a great deal of time, is economical, and prevents adolescents from taking painkillers (Syarifudin, 2020).

According to Putri and Harmanik (2019), regular exercise can boost the release of endorphins, which are natural painkillers, into the bloodstream, hence reducing primary menstruation discomfort. Lack of oxygen to the blood vessels and vasoconstriction will increase the occurrence of menstruation discomfort in adolescents who do not participate in sports. Adolescents who participate in sports seldom are more likely to develop dysmenorrhea than those who participate in sports frequently.

Those who participated in the pre-intervention exercise reported more moderate and mild menstrual pain, whereas those who participated in the post-intervention exercise reported just minor menstrual pain. By pushing the body to create endogenous opioids that work to block pain, yoga for at least 15 minutes can transform the pattern of accepting pain to a more soothing phase (Marliana et al., 2017).

Light yoga exercises can help the body avoid stiffness, pressure, weariness, and pain. The objective of yoga is to enhance flexibility in a safe manner. Yoga activities can also enhance joint performance, making blood circulation and body performance more pleasant. Yoga exercises are simple to perform beginning with the ligaments, tendons, and other connective tissues that surround the muscles, resulting in more flexible muscles (Putri & Harmanik, 2019).

The majority of young women don't regularly participate in sports activities, but after receiving regular yoga instruction once a week for 6 weeks, young women frequently do sports activities. As a result, there is a difference between the average level of menstrual pain in adolescent girls before and after doing yoga exercises.

## 5. CONCLUSION

Before receiving the yoga exercise intervention, as many as 53.3% of the students in this research experienced minor menstruation pain. Still discovered that 16% of respondents suffer from severe menstruation discomfort. After the intervention was administered in the form of one yoga session per week for 6 weeks, 72.4% of responders suffered mild menstrual discomfort, while 1.9% experienced severe menstrual pain. The number of respondents who reported mild discomfort increased, but the number of respondents who experienced severe pain

decreased. This demonstrates that yoga has a considerable impact on menstruation discomfort. Statistical analyses also revealed a  $p$  value = 0 for a significant difference between the severity of menstruation pain before and after yoga exercises, and the intervention had a meaningful impact on lowering monthly pain.

Regular yoga practice can improve general health, increase body flexibility, and strengthen muscles, as well as promote physical fitness and alleviate pain. Therefore, yoga can help the mind and body adjust to stress so that individuals can feel calm and comfortable (Prabhu et al., 2019).

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