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THE EFFECT of PENCAK SILAT SPORTS on PREMENSTRUAL SYNDROME IN FEMALE STUDENTS of THE PENCAK SILAT STUDENT ACTIVITY UNIT at dr. SOEBANDI UNIVERSITY

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ABSTRACT
Background: Pencak Silat is one of the recommended treatments to treat premenstrual syndrome. Pencak silat is a type of sport. The purpose of this study was to determine the effect of pencak silat exercise on premenstrual syndrome (PMS) in female students of UKM Pencak Silat, University of dr. Soebandi Jember.
Method: This design is correlational analytic with cross sectional method. The population in study were all female members of UKM Pencak Silat University of dr. Soebandi Jember. The sample size in this study was 30 female students. The statistical test is Spearman Rank.
Result: There are a large proportion of respondents with sufficient pencak silat sports (56.7%). Most of the respondents (56.7%) did not experience Premenstrual Syndrome (PMS) in the mild category.
Analysis: The results of the Spearman rank test obtained p value of 0.000 below the value of α (0.05), which means that Ha is accepted. .
Conclution: There is an influence of pencak silat exercise on premenstrual syndrome (PMS) in female students of UKM Pencak Silat University, dr. Soebandi Jember.

Keywords : Pencak Silat, Premenstrual Syndrome (PMS), Sports

1. INTRODUCTION

Premenstrual syndrome is a common disorder that occurs in women which occurs in women 2-14 days before menstruation. Premenstrual syndrome (PMS) has a high level of morbidity. Although premenstrual syndrome is not life-threatening, it can affect a woman's productivity and mental health. Approximately 75% of women complain of symptoms of premenstrual syndrome and 30% of them require treatment. In the young age group, premenstrual syndrome is very common, this indicates a very significant health problem. The incidence of premenstrual syndrome is reported to occur in 20-30% of premenopausal women and 30-40% during the reproductive period. (Rizka Safitri et al, 2016)

A person is said to have Premenstrual Syndrome if they experience complaints that usually start a week to a few days before menstruation arrives and disappear after menstruation begins, although sometimes it continues until menstruation stops. The complaints are usually like emotional disturbances in the form of irritability, anxiety, headaches, flatulence, nausea, enlargement, and pain in the mammary glands (Khusniyati et al., 2015).

Based on the WHO (World Health Organization) report, premenstrual syndrome

has a higher prevalence in Asian countries compared to western countries. The results of a study by the American College of Obstetricians and Gynecologists in Sri Lanka in 2012 reported

study in Iran (2012), found that around 98.2% of women aged 18 to 27 years experienced at least 1 symptom of mild or moderate premenstrual syndrome (Aprilyandari, 2018).

In general, when premenstrual syndrome occurs, it can be overcome by carrying out structured and continuous sports activities that involve repeated body movements with certain rules that can be shown to improve physical and mental fitness. (Ministry of Health RI, 2013).

Exercise is one of the recommended treatments for premenstrual syndrome. This is based on the results of several descriptive studies which provide indications that women who exercise regularly experience fewer premenstrual syndrome symptoms (Nurlaela Eva et al. 2008).

Dense activity is one of the reasons people cannot do sports. Exercising can make the muscles and body parts move, thereby promoting blood circulation and oxygen throughout the body (Pane, 2015).

One type/branch of sport is pencak silat, which is a sport based on a skill of intelligence in the art of fighting based on dexterity in attacking, dodging, and defending oneself, in a special match or in an actual fight (Saputra Eka, 2015). Pencak silat is one of the Student Activity Units (UKM) at the University of dr. Soebandi Jember. Based on these problems, the researcher is interested in further researching the effect of pencak silat sports on premenstrual syndrome (PMS) in female students of UKM Pencak Silat University, dr. Soebandi Jember.

that around 65.7% of young women experienced symptoms of premenstrual syndrome. The results of Mahin De Lara's

2. METHODS

This research is correlational analytic research with a cross-sectional method approach. The independent variable in this study was pencak silat, while the independent variable was *premenstrual syndrome* (PMS). The population in the study were all female members of the UKM Pencak Silat University, dr. Soebandi Jember who met the criteria was 32 female students. The minimum sample size in this study was calculated using the Slovin formula. The sample size in this study was 30 female students. The sampling technique used in this study is the Proportional Random Sampling technique. The statistical test used in this study is the Spearman Rank.

3. RESULTS

Table 1. Distribution of Pencak Silat Sports at the University of dr. Soebandi Jember

Pencak Silat Sports	n	%
Enough Sports	17	56,7
Less Sport	13	43,3
Total	30	100

From the table above, it is obtained from 30 samples, there are most of the respondents with sufficient martial arts sports (56.7%)

Table 2 Distribution of the Frequency of Premenstrual Syndrome (PMS) in Student UKM Pencak Silat University, dr. Soebandi Jember

Premenstrual Syndrome (PMS)	N	%
Not experienced - mild	17	56.7
Medium - heavy	13	43.3
Total	30	100

From the table 2 above, it was obtained from 30 samples, there were a large proportion of respondents (56.7%) who did not experience Premenstrual Syndrome (PMS) in the mild category.

Table 3 Distribution of the Frequency of Pencak Silat Sports with Premenstrual Syndrome (PMS) among Student UKM Pencak Silat, University of dr. Soebandi Jember

		Premenstrual Syndrome (PMS)					
		Not experienced - mild		Medium - heavy		Total	
		n	%	n	%	n	%
Pencak Silat Sports	Enough	16	53.3%	1	3.3%	17	56.7%
	Not enough	1	3.3%	12	40%	13	43.3%
Total		17	56.7%	13	43.3%	30	100.0%

From the table above, it is found that most (53.3%) of the respondents with moderate pencak silat sports do not experience Premenstrual Syndrome (PMS).

Table 4 The Relationship between Pencak Silat Sports and Premenstrual Syndrome (PMS) in Student UKM Pencak Silat, University of dr. Soebandi Jember

		Premenstrual Syndrome (PMS)				Total		P Value	Correlation Coef
		Not experienced - mild		Medium - heavy					
		n	%	n	%	n	%	0.000	0.864
Pencak Silat Sports	Enough	16	53.3%	1	3.3%	17	56.7%		
	Not enough	1	3.3%	12	40%	13	43.3%		
Total		17	56.7%	13	43.3%	30	100.0%		

Based on the table above the results of the analysis of the Relationship between Pencak Silat Sports and Premenstrual Syndrome (PMS) in Student UKM Pencak Silat University, dr. Soebandi Jember, the results of the test using Spearman rank obtained a significance value or p-value of 0.000 below the value of α (0.05), which means that Ha is accepted and H0 is rejected. The result of the correlation coefficient is 0.864, which means that the level of closeness in the category is very strong, and the direction of the relationship is positive.

4. DISCUSSION

A. Pencak Silat Sports

Pencak Silat is the basic movement of self-defense and is bound by rules. While silat means perfect self-defense moves that originate from spirituality. Pencak silat is a game (expertise) in self-defense with skills to fend off, attack, and defend oneself with or without weapons. Pencak is human nature to defend itself, while silat is an element that connects movement and thought. The elements in pencak silat include: elements of sports, self-defense, spiritual mental education, and brotherhood towards unity (Yuda Alfi. 2021)

Sport is one of the elements contained in pencak silat. Sport is a form of planned and structured physical activity that involves repetitive body movements and is intended to improve and maintain physical fitness (Pratiwi Arantika, 2012). In this study, according to their sports activity, the respondents were divided into two groups, namely the less and sufficient sports activity groups. Exercise is said to be sufficient if it meets the frequency, intensity, and time measurements, which are carried out 3-5 times a week for 20-60 minutes and reach the target heart rate of 120-180 times/minute.

Based on the results of this study, it can be seen that most of the respondents had sufficient martial arts (56.7%) and nearly half (43.3%) of the respondents had insufficient martial arts. This is because respondents who practice pencak silat sufficiently get the maximum benefits of exercise compared to respondents who exercise less. So that PMS symptoms are felt less or lighter.

B. Premenstrual Syndrome (PMS)

Based on the results of this study, it can be seen that most of the respondents (56.7%) did not experience Premenstrual Syndrome (PMS) in the mild category and almost half (43.3%) of the respondents experienced Premenstrual Syndrome (PMS) in the moderate category. - heavy.

Premenstrual syndrome is a syndrome that occurs in women 2-14 days before menstruation. Premenstrual syndrome is a common disorder that occurs in women (Rizka, et al., 2016). Premenstrual syndrome is a cyclical disorder that commonly occurs in young and middle women, characterized by consistent physical and emotional symptoms, occurs during the luteal phase of the menstrual cycle and more than 90% of women experience Premenstrual Syndrome. Eight to twenty percent of them even experience severe symptoms that require treatment (Delara et al., 2012).

Physical activity / Physical activity is a daily activity that releases energy. Lack of exercise or physical activity can make PMS symptoms worse. Pencak silat sports are said to reduce PMS complaints. Exercise can make endorphins appear, which will make you feel calmer and more relaxed (Mufida, 2015).

The symptoms experienced by many respondents included anger (83%), fatigue (93%), back pain (86%), breast pain (80%), changes in appetite (94.4%), and low back pain (88.9%). This is consistent with the theory that the symptoms of premenstrual syndrome are often encountered according to Mitayani (2009) in Pratiwi Arantika (2012), including Physical, emotional, and mental symptoms.

C. The Relationship between Pencak Silat Sports and Premenstrual Syndrome (PMS)

After processing the data using Spearman rank, a significance value or p-value of 0.000 is below the value of α (0.05), which means that Ha is accepted and H0 is rejected. The result of the correlation coefficient is 0.864, which means that the level of closeness in the category is very strong, and the direction of the relationship is positive. It can be concluded that there is a relationship between Pencak Silat Sports

and Premenstrual Syndrome (PMS) in Student UKM Pencak Silat University dr. Soebandi Jember.

The results of this study are not much different from the results of research conducted by Pratiwi Arantika (2012) with the title "Relationship between Sports Activity and Premenstrual Syndrome in Female Members of UKM INKAI UNS". From this study, the results showed that there was a relationship between sports activity and premenstrual syndrome.

Exercise can prevent the occurrence of PMS by releasing several neurotransmitters such as serotonin, dopamine, and noradrenergic hormones (Lin T, 2013). Increased serotonin can improve mood and emotions (Jenkins, 2016). Vigorous to moderate intensity exercise was successful in increasing the sensitivity of dopamine receptors compared to moderate intensity exercise to sedentary behavior. The hormone dopamine has a positive mood-boosting effect and memory (Marmeleira, 2013).

Lack of exercise causes a decrease in nerve impulses that stimulate the hypothalamus to release beta-endorphins so there is no improvement in the physical and emotional condition of women. Endorphin hormone levels can be increased by doing exercise. In doing sports, several aspects must be considered to get the desired benefits, including (1) type of exercise (aerobic, strength, flexibility, balance) (2) frequency, (3) duration, (4) intensity, and (5) volume (Start, 2016).

The incidence of PMS is related to changes in reproductive hormones during the luteal phase of the menstrual cycle. The use of exercise as a therapy in preventing PMS has been recommended by several international organizations such as The Royal College of Obstetricians and Gynecologists (RCOG) (RCOG, 2017). Women with PMS who exercise will experience improvement in PMS symptoms in response to the release of several neurotransmitters such as the hormones serotonin, dopamine, and noradrenaline (Lin T, 2013). This is due to the side effects of exercise which send signals to the hypothalamus to release neurotransmitters, thereby causing an improvement in PMS symptoms in women (Starth, 2016).

Pencak silat has 4 main aspects in its application, namely the mental-spiritual aspect, cultural arts, martial art, and sports. Pencak silat has many benefits for cognitive, affective, and psychomotor abilities. Development of cognitive abilities, in line with being given exercises on the concept of pencak silat, is the process of thinking quickly in dealing with problems that are immediately solved and making decisions in a timely and accurate manner. Development of affective abilities, in line with exercises that lead to sportsmanship, mutual respect/respect for fellow sparring partners, and learning to be disciplined, and humble in accordance with the philosophy of Pencak silat. Development of psychomotor abilities, in line with the provision of exercises that lead to physical activity, such as learning pencak silat which is dynamic, challenging, and fun. In addition, the benefits of Pencak silat are also being able to increase self-confidence, train mental resilience, train tenacity, and develop self-awareness. Pencak silat is also useful for training self-strength. So, pencak silat can be a good sport for the overall physical growth and mental health of children (Gracia Debora, 2022).

Pencak silat can keep the body healthy. When doing silat movements, all the muscles of the body feel stretched. Blood circulation is smoother and the calories are burned out. In addition, silat also strengthens physically and spiritually. One of the goals of practicing silat is to mentally train, increase courage and reduce fear. Must be ready to attack or be attacked by opponents. Those are some of the things that are undertaken when learning Pencak Silat so that the mind continues to be trained step by step. One of the important points in learning Pencak Silat is that you

have to be patient and go through each process (Bagja Komaruddin, 2022). This is of course very useful for dealing with the symptoms of Premenstrual Syndrome (PMS).

Based on the theory according to Saryono and Sejati (2009) in Pratiwi Arantika (2012) which states that exercise can reduce PMS symptoms, namely reducing fatigue and stress while improving body health. Exercise increases sympathetic stimulation, which is a condition that lowers heart rate and reduces feelings of anxiety. Regular exercise can also reduce stress, promote regular sleep patterns, and increase the production of endorphins (the body's natural painkillers), which can increase serotonin levels. Serotonin is a neurotransmitter produced in the brain that plays an important role in regulating mood, anxiety, sexual arousal, and mood swings.

5. CONCLUSION

After doing the research, it can be concluded: Most of the respondents with sufficient martial arts sports (56.7%), Most of the respondents (56.7%) did not experience Premenstrual Syndrome (PMS) with the category light.

The Relationship between Pencak Silat Sports and Premenstrual Syndrome (PMS) in Students of UKM Pencak Silat University, dr. Soebandi Jember, the results of the test using Spearman rank obtained a significance value or p-value of 0.000 below the value of α (0.05), which means that Ha is accepted and H0 is rejected. The result of the correlation coefficient is 0.864, which means that the level of closeness in the category is very strong, and the direction of the relationship is positive.

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