

THE DYSMENORRHEA EFFECT OF ARCHERS PERFORMANCE ON ARCHERY SPORTS

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Abstract This study aims to determine the impact of dysmenorrhea on archers' performance in archery at UNJ, the factors that influence dysmenorrhea and the prevention and treatment of dysmenorrhea. The research method used is a descriptive method with a survey technique, namely analyzing the impact of dysmenorrhea on the performance of archers in the archery sport of UNJ. The research was conducted in the archery field of FIK UNJ in August 2021. The population is female archers at the UNJ archery club, totaling 50 people. The sampling technique uses quota sampling, namely the technique of determining samples from the population that have certain characteristics up to the number (quota) What is desired with this research sample is female archery athletes who have experienced puberty or menstruation and have practiced archery for at least six months with a sample of 20 people. The results of this study are that there is no significant difference in the results of archery when experiencing dysmenorrhea or when not experiencing dysmenorrhea. Thus, the condition of dysmenorrhea did not affect the scores of archery athletes at UNJ.

Keywords: dysmenorrhea, archery, performance.

INTRODUCTION

Women's health is an important and endless topic to discuss. The level of women's health reflects the level of health services in a country, if the maternal mortality rate is still high, it means that the level of health services is not good, so anything related to women's health is always a cycle of endless discussion, one of which is menstruation in woman. (Wiknjosastro, Hanifa, 2007).

In archery, especially in Indonesia, there are many female athletes from children to adults, even archery is not just a sport, but also a

means of worship for Muslims because archery is a sunnah sport. Archery requires a subtle touch of the soul, patience, tenacity, concentration and high mental endurance and has a high level of anxiety. (Ramdan & Nadya, 2017). If the archery athlete is not calm, it will cause the exercise pulse to increase due to high anxiety levels and will have an effect on reduced concentration so that in shooting arrows, the arrows shot will not match the target desired by the athlete.

Menstruation usually begins at the age of 9-12 years. there are some women who experience menstruation



later than that (13-15 years). The condition of adolescents who have experienced menstruation is emotionally unstable. Some can also cause symptoms such as soreness in the thighs, pain in the breast area, fatigue, irritability, loss of balance, carelessness and sleep disturbances, even some women experience pain during menstruation which is called dysmenorrhea. (Wiknjosastro, Hanifa, 2007).

Dysmenorrhea is a medical condition that occurs during menstruation or menstruation that can interfere with activities and require treatment. Dysmenorrhea is characterized by pain or tenderness in the abdomen or hips, menstrual pain that is crampy and centered in the lower abdomen. Cramping pain that is felt before or during menstruation can also be pain in the buttocks. Pain in the stomach, nausea, vomiting, diarrhea, dizziness or even fainting.

The incidence of menstrual pain in the world is very large. On average, more than 50% of women in every country experience menstrual pain. The percentage in America is around 60% and in Sweden it is around 72%. While in Indonesia the figure is estimated at

55% of women of reproductive age who are tormented by pain during menstruation. The incidence (prevalence) of menstrual pain ranges from 45 – 95% among women aged productive.

Dysmenorrhea can be overcome or reduced one of them by doing regular exercise. (Soegiyanto, 2013) Explaining that, sport is not only potential for men, but women can also raise their name from the achievements they get through various sports. However, there is an assumption that women during the menstrual period is a moment where women become weak, because menstruation affects physical and psychological conditions.

Other studies suggest that the physiological response to exercise before the menstrual cycle is very different in women with disabilities. Other evidence shows that most women can train and compete normally during menstruation, but some women experience fluid retention and abdominal cramps before menstruation and during menstruation. One of the evidences from the newspaper on August 16, 2016 that researchers read about swimming athletes from China, namely Fu Yuanhui. Fu Yuanhui

admitted that she was on her period when she competed at the Rio Olympics. After Yuanhui finished the 4 x 100 meter relay, she honestly told reporters that she felt unfit because she was menstruating. This woman from China managed to donate a silver medal at the Rio Olympics in 2016.

State of The Art

Dysmenorrhea is a physical disorder in women who are menstruating in the form of pain/abdominal cramps. Prevention can be done by doing light exercise such as gymnastics. Dysmenorrhea can affect a person's performance as stated in the background above. The state of the art of this research is dysmenorrhea in the sport of archery.

Research purposes

To find out the impact of dysmenorrhea on archer performance in archery UNJ, factors that affect dysmenorrhea and prevention and treatment of dysmenorrhea

Menstruation

Menstruation is the first menstruation that occurs, which is a characteristic of the maturity of a woman who is healthy and not pregnant (Fairus, 2011). Meanwhile, according to Proverawati and Misaroh, menstruation

is a sign of a change in social status from children to adulthood, and other changes such as breast growth, hair growth in the pubic and axillary areas, and fat distribution in the hip area. From the above opinion, the researcher concludes that menstruation is the first menstruation experienced by a woman which is a characteristic of a woman's maturity, as a sign of the transition from childhood to adulthood and is characterized by secondary characteristics, namely the growth of armpit hair, pubic hair growth, and enlargement breast.

Generally, adolescents who experience menstruation (menarche) are at the age of 12 to 16 years. This period will change behavior from several aspects, for example psychological and others. Women usually have their first menstruation at the age of 12-16 years. The menstrual cycle (Menarche) is normal every 22-35 days, with the length of menstruation (Menarche) for 3-7 days.

Factors that affect Menstruation

The factors that affect menstruation are:

- a. Hormone Factor

Hormones that affect the occurrence of menstruation in women are:

1. Estrogen Hormone

The hormone estrogen is very influential in the growth process of adolescents during puberty. This hormone also plays a role in female reproduction and also the ovulation cycle.

2. Progesteron Hormone

This hormone is very useful in maintaining pregnancy in women and also the menstrual cycle which has a role in thickening the uterine wall.

3. *Luteinizing Hormone (LH)*

LH is a hormone that affects the process of menstruation. This hormone is referred to as a hormone whose job is to stimulate the ovaries to produce eggs so that the ovulation process goes well.

4. *Follicle Stimulating Hormone (FSH)*

FSH is a hormone in controlling the menstrual cycle and is very influential in the maturation of eggs.

b. Enzyme Factor

Hydrolytic enzymes present in the endometrium damage cells that play a role in protein synthesis, which interferes with metabolism, resulting in endometrial regression and bleeding.

c. Vascular Factor

During the proliferative phase, vascularization occurs within the functional layer of the endometrium. Along with the growth of the endometrium, the arteries, veins, and connections between them also grow. With endometrial regression, there is stasis in the veins and the channels connecting them to the arteries, and eventually necrosis and hemorrhage occur with hematoma formation, from both arteries and veins.

d. Prostaglandins Factor

The endometrium contains prostaglandins E2 and F2. With disintegration of the endometrium, prostaglandins are released and cause myometrial contractions as a factor limiting menstrual bleeding.

Dysmenorrhea

According to Laila (2012) Dysmenorrhea is pain during menstruation that can cause physical problems such as nausea, weakness, and diarrhea and can interfere with activities. Women who experience dysmenorrhea will experience disturbances in their learning activities because learning is an activity that involves physical work as well as the brain.

Dysmenorrhea in Indonesian is menstrual pain, the nature and degree of this pain varies. Ranging from light to heavy. Severe conditions can interfere with daily activities, forcing the sufferer to rest and leave work or daily life for several hours or days. Almost all women experience discomfort in the lower abdomen during menstruation. The uterus or womb is made up of muscles that also contract and relax. Generally, uterine muscle contractions are not felt, but strong and frequent contractions cause blood flow to the uterus to be disrupted, causing pain (Aulia, 2009).

Many women experience physical discomfort for a few days before their menstrual period comes, (Darmansyah :2012). Approximately half of all women suffer from dysmenorrhea (painful menstruation) (Dawood: 2006). The pain itself can be described as mild pain, moderate pain and severe pain until this pain can be treated with dysmenorrhea drugs (Benson: 2009). So dysmenorrhea is a condition where there is pain in the lower abdomen and even nausea and vomiting if it is too severe.

Archery

Archery is a sport that is recommended in Islam and sunnah by the Prophet Muhammad *sallallahu 'alaihi wa sallam*. Archery is closely related to targeting, because the ultimate goal of archery is to shoot arrows at the target face correctly, so one of the factors needed in archery movements is consistency, which must be done continuously during training and during competition. (Munawar *et all.* 2012).

The archery athlete's achievement is accuracy in aiming at the target, which means that the athlete must have good physical abilities, not only strength but also strong muscle endurance because the athlete must shoot 6 arrows per 6 sessions in which the athlete shoots a total of 36 arrows. The mental aspects needed include concentration. According to Wilson. *et al.*, concentration is the ability of a person to focus on a task without being disturbed and influenced by stimuli, both internal and external (Putra, 2017).



Figure 1.
Archers

Sumber: Farrell C. 2018. 7 Hal Yang Harus Kamu Ketahui Tentang Olahraga Panahan. <https://blog.kurio.co.id/inside-kurio/insidekurio/7-hal-yang-harus-kamu-ketahui-tentang-olahraga-panahan/>.

Archery is an individual sport and competes to collect the highest scores. The archer's goal is to shoot 36 arrows at the target's face at a distance of 70 meters. The target face is a circle with a diameter of 30 cm, each target has the smallest value of 0 (edge target)



to the largest value of 10 (middle target).

Figure 2.

Target Face Size 122 cm

Sumber: Worldarchery

METHOD

This study uses a descriptive method, which only describes a variable with a survey technique, which aims to collect information about the variable and also aims to collect data and then collect it to analyze the impact of dysmenorrhea on the performance of archers in UNJ archery. The place of

research was conducted at the Archery Field, FIK UNJ, Jl. Pemuda No. 10 Rawamangun East Jakarta in August-September 2021.

The population in this study were 56 female archers who joined the FIO UNJ archery club. Sampling in this study used the quota sampling method. According to Sugiyono (2010) Quota sampling is a technique of determining a sample from a population that has certain characteristics to the desired number (quota) with the sample of this study being female archery athletes who have experienced puberty or menstruation and have practiced archery for at least six months with a total sample of 20 people.

The data collection technique is to measure the total score of archery results in menstruating and normal conditions (not menstruating). Then the data is collected for further processing.

The instruments used in this study were the archery field, bow, arrow, archery score recorder and stopwatch.

The data analysis technique used the t-test which compared the t-count with the t-table. If $t\text{-count} < t\text{-table}$, there is no change in the archery score, both in normal conditions and during

menstruation. If $t\text{-count} > t\text{-table}$, there is a change in the archery score, both under normal conditions and during menstruation.

RESULTS AND DISCUSSION

RESULTS

Based on the results of data processing, the research data can be described in terms of the average, median, mode, and variance. The data can be seen in the table below:

Table 1.
Description of Research Results on the Impact of Dysmenorrhea on Archers' Performance in Archery UNJ

Size	Value	
	Normal Score	Dysmenorrhea Score
The highest score	335	330
Lowest Value	213	176
Average	283,5	272,1
Median	286,5	275
Mode	296; 327	176; 269; 320; 327
Variance	1403,56 6	2150,411

Source: Data Processing Results

Based on the table above, it can be explained that the average normal score is 283.5 while the average archer during dysmenorrhea is 272.1. The normal score has the highest score of 335 and the dysmenorrheal score has

the highest score of 330, the lowest score for the normal score is 213 while the score for dysmenorrhea is 176, the median normal score is 286.5 and the median score for dysmenorrhea is 275. The mode for the normal score is 296. and 327 while the score for dysmenorrhea is 176, 269, 320, 327. And the variance has a normal score of 1403,566 and the score for dysmenorrhea is 2150,411.

Table 2.
Normal Score Frequency Distribution
Source: Data Processing Results

No.	Class Interval	Middle value	Absolute Frekuensi	Relative Frekuensi (%)
1	213 - 236	224,5	3	15
2	237 - 260	247,5	2	10
3	261 - 284	270,3	4	20
4	285 - 308	293,5	6	30
5	309 - 332	316,5	3	15
6	333 - 356	339,5	2	10
	Amount		20	100

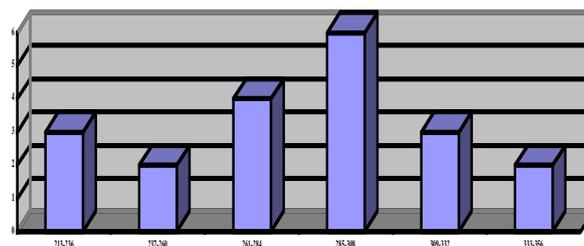


Figure 3.
Normal Score Bar Chart

Table 3.

Frequency Distribution of
Dysmenorrhea Score

No.	Class Interval	Middle value	Absolute Frekuensi	Relative Frekuensi (%)
1	176 - 205	190,5	2	10
2	206 - 235	220,5	1	5
3	236 - 265	250,5	5	25
4	266 - 295	280,5	4	20
5	296 - 325	310,5	5	25
6	326 - 355	340,5	3	15
	Amount		20	100

Source: Data Processing Results

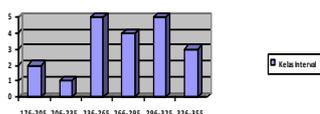


Figure 4.

Dysmenorrhea score bar chart

Discussion

Based on the results of the research and the results of data processing, the t-count is 0.874 and the t-table is 2.025 at = 0.05, then the t-count is 0.874 < t-table 2.025 so that there is no significant difference to the results of archery when experiencing dysmenorrhea or when no

dysmenorrhea. Thus, the condition of dysmenorrhea did not affect the scores of archery athletes at UNJ.

Conclusion

From the results of the research that has been carried out and the results of data processing that has been carried out, it can be concluded that there is no impact of dysmenorrhea on the performance of archers in the sport of archery UNJ and there are other factors that affect dysmenorrhea.

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