

## Original Research Article

# RELATIONSHIP OF DAILY PHYSICAL ACTIVITY WITH DURATION OF THE MENSTRUAL CYCLE IN ADOLESCENT WOMEN AT SENIOR HIGH SCHOOL 1 KEDUNGUNG OF SAMPANG

Faridatul Istibsaroh<sup>1\*</sup>, Devina Wulandari<sup>1</sup>, Elok Alfiah Mawardi<sup>1</sup>

<sup>1</sup>Nursing, Faculty of Health,  
University of Nazhatut Thullab al-  
Muafa Sampang

### \*Correspondence:

Faridatul Istibsaroh

University Of Nazhatut Thullab  
al-Muafa Sampang

Email: [doramantul@gmail.com](mailto:doramantul@gmail.com)

### Abstract

**Background:** An important period of life for humans is adolescence with an age range of 10-18 years. At this time, individuals begin to experience growth and development in physiological, psychological, behavioral and sexual maturity. Menstruation is cyclical bleeding from the uterus as an integral part of a woman's biological function in her life. But not all women have normal menstrual cycles, many of them have irregular menstrual cycles (Proverawati and Maisaroh, 2016). Irregular menstruation can have an impact, including the possibility of experiencing infertility and can make it difficult for women to find a fertile period.

**Objectives:** The aim of the study was to Relationship of Daily Physical Activity with the Duration of the Menstrual Cycle in adolescent women at Senior High School 1 Kedungdung of Sampang.

**Methods:** This type of research is an observational analytic study with a cross-sectional or cross-sectional study design which was conducted to determine the relationship between daily physical activity and the menstrual cycle in young women.

**Results:** Almost half of the students at 12 students (44.44%) out of 27 students, are in the light activity category. Most of the respondents had irregular menstrual cycles, namely 19 female students (70.37) out of 27 female students.

**Conclusion:** Asymp.Sig (2-sided) value of 0.000 < 0.05. So it be concluded that there is a relationship between physical activity and the menstrual cycle in adolescent women in Senior High School Kedungdung.

**Keywords:** ADL, Adolescent Women, Menstrual Cycle

## INTRODUCTION

An important period of life for humans is adolescence with an age range of 10-18 years. At this time, individuals begin to experience growth and development in physiological, psychological, behavioral and sexual maturity

(Sarwono, 2013). Sexual maturity is characterized by the presence of puberty and experiencing menstruation. Menstruation is cyclical bleeding from the uterus as an integral part of a woman's biological function in her life. But not all women have normal menstrual

cycles, many of them have irregular menstrual cycles (Proverawati and Maisaroh, 2016). Irregular menstruation can have an impact, including the possibility of experiencing infertility and can make it difficult for women to find a fertile period (Nurlaila, et al, 2016).

According to WHO, out of 18 million women aged 18-55 years, the most common menstrual cycle disorder is irregular menstrual frequency of 80.7%. According to the results of Riskesdas (2013), it was reported that women in Indonesia aged 10-59 years experienced irregular menstruation at 13.7%. From a preliminary study conducted at Senior High School 1 Kedungdung, out of 8 students who were given physical activity questionnaires, stress levels and menstrual cycles, it was found that 1 person had light physical activity, 5 students had moderate physical activity, and 2 people had heavy physical activity. From the menstrual cycle data, it was found that 5 people had regular menstrual cycles and 3 female students had irregular menstrual cycles.

Irregular menstruation is caused by hormones or diseases in the reproductive organs such as uterine tumors, ovarian tumors. Disrupted menstrual cycles are influenced by several factors, including genetics, nutrition, age, weight, stress levels and physical activity. Physical activities such as exercise can reduce symptoms that arise before menstruation ends. Currently, the lack of physical activity in adolescents occurs because everything is digital-based which makes it easy and practical to do everything, for example remote control, computers, elevators and escalators. In addition, exercise that is too heavy can also cause disturbances in the physiology of the menstrual cycle (Prawiharjo, 2016).

The results of a study conducted in Turkey by Cakir M et al (2015) explained that dysmenorrhea is a menstrual disorder with the greatest prevalence (89.5%), followed by irregular menstrual cycles (31.2%) and long duration of menstruation (5.3%) which ranges from 8-10 days per cycle.

**Objective(s):** The aim of the study was to Relationship of Daily Physical Activity with

the Duration of the Menstrual Cycle in Young Girls at Senior High School 1 Kedungdung of Sampang.

## **METHODS**

### *Study Design*

This type of research is an observational analytic study with a cross-sectional or cross-sectional study design which was conducted to determine the relationship between daily physical activity and the menstrual cycle in young women.

### *Setting*

This research was conducted at Senior High School 1 Kedungdung of Sampang in January 2022

### *Research Subject*

The population of this study were all students of class XI and class XII at Senior High School 1 Kedungdung of Sampang, total 30 students, with sample of 27 students.

In this study the sampling technique used a non-probability sampling with a purposive and a criterion test (inclusion and exclusion) was carried out.

### *Instruments*

For the independent variable Daily physical activity using the PAL questionnaire and the dependent variable the duration of the menstrual cycle using a questionnaire.

### *Data Analysis*

The data analysis process in this study includes Editing, namely re-examining whether there are still questions that have not been answered by respondents, Coding, namely changing data in the form of sentences or letters into numeric or numeric data and Tabulating, namely making data tables, in accordance with the research objectives or what the researcher wants.

In this study using Chi-Square Test statistic. Analysis of the results of the Chi-

Square Test test, seeing from the results of this statistical test, it can be concluded that there is a significant or not significant relationship between the 2 variables

#### *Ethical Consideration*

In this study, the researcher first gave informed consent to the respondent as a sign of approval to conduct the research by not including the respondent's name. Confidentiality of information provided by respondents guaranteed by researchers. Only certain data (mandatory) will be listed as research results.

The researcher asked permission from the school principal and also applied for permission to the research and community service division at Nazhatut Thullab Al-Muafa University, Sampang

## RESULTS

Table 1. Characteristics Respondent of Age

Age (year)	Quantity	%
15	1	3.70
16	2	7.41
17	10	37.04
18	10	37.04
19	4	14.81
Total	27	100.00

Based on the data in table 1, it can be seen that the age range of the respondents was between 15-19 years with the majority of respondents aged 17-18 years amounting to 20 people (74.08%).

Table 2. Daily Physical Activity

Daily Physical Activity	Quantity	%
Light	12	44.4
Moderate	7	25.93
Severe	8	29.63
Total	27	100.00

Based on data from table 2 it shows that almost half of the respondents had light physical activity as many as 12 people (44.44%).

Table 3. Menstrual Cycle

Menstrual Cycle	Quantity	%
Normal	8	30
Abnormal	19	70
Total	28	100

Normal	8	30
Abnormal	19	70
Total	28	100

Based on data from table 3 shows that almost all respondents had abnormal menstrual cycles as many as 23 people (85.19%)

Table 4. Relationship of Daily Physical Activity with Duration of The Menstrual Cycle

Daily Physical Activity	Menstrual Cycle					
	Normal		Abnormal			
	n	%	n	%	n	%
Light	3	12	9	34	20	74
Moderate	5	18	2	7.5	6	22
Severe	0	0	8	29.5	1	4

Based on data from table 4, it can be seen that young women have cycles normal menstruation as many as 8 female students (29.63%), while 19 adolescents (70.39%) had abnormal menstrual cycles. Of 27 teenagers with category of light physical activity that experienced an abnormal cycle as much as 9 female students (33.33%). In the category of moderate physical activity of 27 young women, who experienced menstrual cycle abnormalities as many as 2 female students (7.41%). On There are 8 people in the category of moderate physical activity and their menstrual cycle is not normal.

## DISCUSSION

Based on the results of the respondent's data, the majority of respondents had light activity as many as 12 people (44.44%), had moderate activity as many as 7 people (25.93) and had heavy activity as many as 8 people (29.63%). The results of the independent variable study of physical activity and the menstrual cycle obtained a p value of 0.001, which means that there is a relationship between physical activity and the menstrual cycle in young women at Senior High School Kedungdung In Sampang where 9 female students (33.33%) had light activity and irregular menstrual cycles. while respondents with moderate physical activity and irregular menstrual cycles were 2 female students

(7.41%) and respondents with heavy physical activity with abnormal menstrual cycles were 8 people (29.63%). This shows that respondents with light or heavy activity are at risk of having irregular menstrual cycles compared to respondents who have moderate physical activity or are classified as normal. This research is in line with that conducted by Yuniyanti, A. F., Masrikhiyah, R., & Ratnasari, D., (2022) stating that there is a relationship between physical activity and the menstrual cycle ( $p < 0.05$ ). Abnormal activity will cause disturbances in the menstrual cycle. The higher the physical activity, the menstrual cycle becomes irregular.

Every month young women will experience menstruation which during this period they will be at risk of anemia, coupled with the poor dietary habits of young women which can increase the risk of anemia (Farida, 2019). According to Paterson, Jones at Rice, 2007, shows the fact that there is a decrease in marginal benefits if the increase in physical activity exceeds the combined number of 300 minutes per week of moderate intensity physical activity and can increase the risk of injury. However, the higher the level of physical activity (for example, more than 150 minutes per week) is expected to provide more benefits for health, including reproductive health. It is the same as the research that the researchers conducted where the lower the value of the respondent's physical activity, the greater the tendency of the respondent to experience irregular menstrual cycles (Anindita, 2016).

The results of this study also, researchers assume that the most physical activity is moderate physical activity considering that students have started doing offline learning at school, but with an alternating system so that the time spent at school is not as much as before the pandemic. Most of the students who had light physical activity or who could be said to have less normal physical activity experienced irregular menstrual cycles.

## CONCLUSION

Almost half of the students at 12 students (44.44%) out of 27 students, are in the light activity category. Most of the respondents had irregular menstrual cycles, namely 19 female students (70.37) out of 27 female students. Based on the results of the study, physical activity and the menstrual cycle obtained a p value of 0.001, which means there is a relationship between physical activity and the menstrual cycle in young women.

## SUGGESTIONS

For respondents need to adopt a healthier lifestyle such as doing regular physical exercise because this can also maintain reproductive health. For educational Institutions it is hoped that this can add references to the literature, especially regarding information related to the menstrual cycle and daily physical activity.

## ACKNOWLEDGMENT

Thank you to the director of Kedungdung Senior High School in Sampang who have helped collect data from students.

## DECLARATION OF CONFLICTING INTEREST

There is no conflict of interest.

## FUNDING

Personal funding.

## AUTHOR CONTRIBUTION

### Author 1:

Master of plan and collecting data

### Author 2:

Arrange the content and write the article

### Author 3:

Arrange the content

## ORCID

### Author 1:

Faridatul Istibsaroh

<https://orcid.org/0000-0002-3528-4993>

## REFERENCES

- Anindita P, Darwin E, Afriwardi A, (2016). Hubungan Aktivitas Fisik Harian dengan Gangguan Menstruasi pada Mahasiswa Fakultas Kedokteran Universitas Andalas. *Jurnal Kesehatan Andalas*;5(3):522-527. doi:10.25077/jka.v5i3.570
- Istibsaroh, Farida. (2019). Efektifitas Pemberian Tablet Besi (Fe) Terhadap Peningkatan Kadar Hemoglobin pada Siswi yang Menderita Anemia di SMAN 3 Kabupaten Sampang. *Jurnal Ilmiah Keperawatan Stikes Hang Tuah*, 14(1), 11-17.
- Kanca, I. N. (2012). Olahraga dan Kesehatan Reproduksi. *Medikora*. Vol 2 No 2, 205-218.
- Kementerian Kesehatan Republik Indonesia. (2018). Riset Kesehatan Dasar tahun 2018. Badan Penelitian dan Pengembangan Kesehatan. Jakarta.
- Laila, Nur, Najmi. (2016). *Buku Pintar Menstruasi*. Yogyakarta: Buku Biru.
- Paterson, R.R.M. 2007. Ganoderma disease of oil palm-a white rot perspective necessary for integrated control. *J Crop Protec*. 26:1369-1376.
- Prawirohardjo S, (2016) . *Ilmu Kebidanan*. Ed ke-4 Jakarta Yayasan Bina Pustaka Prawirohardjo. doi:10.1017/CBO9781107415324.00 4
- Rachmawati PA. (2014). Hubungan Asupan Zat Gizi, Aktifitas Fisik, dan Persentase Lemak Tubuh dengan Gangguan Siklus Menstruasi Pada Penari. Program Studi Ilmu Gizi Fakultas Kedokteran Universitas Diponegoro Semarang.
- Sarwono, S. (2013). *Psikologi Remaja*. Jakarta: PT. Rajagrafindo Persada.
- World Health Organization. (2018). Physical activity. <https://www.who.int/healthtopics/physical-activity>. Diakses pada tanggal 17 Desember 2021
- Yunianty, A. F., Masrikhiyah, R., & Ratnasari, D. (2022). Hubungan Tingkat Kecukupan Energi, Status Gizi, Aktifitas Fisik terhadap Siklus Menstruasi pada Mahasiswi di Universitas Muhadi Setiabudi. *Jurnal Ilmiah Gizi Kesehatan (JIGK)*, 3(02), 76-81.

**Cite this article as:** Istibsaroh, F., et al. (2022). Relationship of Daily Physical Activity with Duration of The Menstrual Cycle in Adolescent Women at Senior High School 1 Kedungdung of Sampang. *International Conference of Kerta Cendekia*, 2 (1), 119-123.