

THE RELATIONSHIP BETWEEN LIFESTYLE AND PRIMARY DYSMENORRHEA IN NURSING STUDY PROGRAM STUDENTS AT STIKES ABDI NUSANTARA

Ketut Dana¹, Sukmawati²

¹Lecture, Department of Nursing, STIKes Abdi Nusantara, Indonesia

²Lecture, Department of MIDwifery, STIKes Abdi Nusantara, Indonesia

Background : According to the World Health Organization (WHO) in Sulistyorini's research (2017), the incidence of dysmenorrhea is quite high throughout the world. The average incidence of dysmenorrhea in young women is between 16.8-181%. On average in European countries dysmenorrhea occurs in 45-97% of women. with the lowest prevalence in Bulgaria (8.8%) and the highest at 94% in Finland. The highest prevalence of dysmenorrhea is often found in adolescent girls, which is estimated to be between 20-90%. About 15% of adolescents are reported to experience severe dysmenorrhea. **Objective:** To obtain or find out information about the relationship of lifestyle with the incidence of primary dysmenorrhea in Nursing Undergraduate Study Program students at Stikes Abdi Nusantara for the period of July 2020. **Method:** The research design used was analytical research with cross sectional approach, the samples in this study were all female students of Nursing Study Program at Stikes Abdi Nusantara Jakarta. **Results:** Respondents with primary dysmenorrhea were 91.5%, respondents who said stress were 27.1%. Respondents with high fast food consumption were 83.6%. Respondents with passive smoking were 47.5%. Statistical results between primary dysmenorrhea and incidence of stress ($p = 0.73$ and OR 0.6), fast food consumption ($p = 0.027$ and OR = 4.029), and passive smoking ($p = 0.247$ and OR = 1.904). **Conclusions and suggestions:** There is no relationship between stress and passive smoking with the incidence of primary dysmenorrhea. There is a relationship between fast food consumption and the incidence of primary dysmenorrhea in S1 nursing study program students at Stikes Abdi Nusantara Jakarta. It is recommended that nursing undergraduate students avoid unhealthy lifestyles such as reducing consumption of fast food in order to reduce the risk of primary dysmenorrhea.

Key words: Primary Dysmenorrhea, Lifestyle, Women

INTRODUCTION

According to the World Health Organization (WHO) in research by Sulistyorini (2017), the incidence of dysmenorrhea is quite high throughout the world. The average incidence of dysmenorrhea in young women is between 16.8 – 81%. On average, in European countries, dysmenorrhea occurs in 45-97% of women. In the United States, dysmenorrhea is recognized as the most common cause of absence from school for young girls. In addition, a survey was also conducted on 113 women in the United States and stated the prevalence was 29-44%, mostly at the age of 18-45 years.

According to Savitri (2015), in Indonesia the incidence of dysmenorrhea consists of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea. In general, the treatment of dysmenorrhea is divided into two categories, namely pharmacological and non-

Corresponding author: Ketut Dana. <https://orcid.org/0000-0003-3478-4239>

STIKES Abdi Nusantara Swadaya, Kubah Putih No.7 RT 001/014 Kelurahan Jatibening Kecamatan Pondok Gede Bekasi, Indonesia

Tel: +21-86901352, Fax: +21-86905637, E-mail: ketutdana@gmail.com

Received: Aug 26, 2023 / Revised: Sep 05, 2023 / Accepted: Sep 26, 2023

This is an open access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0>), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

pharmacological approaches. Non-pharmacological treatment includes regular exercise, warm compresses, rest and relaxation.

According to Babil, et al (2016), one of the causative factors of primary dysmenorrhea is lifestyle. Lifestyle that can affect primary dysmenorrhea can be divided into physical activity, stress, fast food consumption, smoking/passive smoking. Research conducted by Babil et al. in 2016 the Faculty of Medicine, Sari University in Iran found that there are differences between the lifestyles of young women with and without primary dysmenorrhea. It was explained that lifestyle in the form of infrequent physical activity, stress and smoking both as active and passive smokers exist in women with primary dysmenorrhea. The first influential lifestyle is physical activity. There is a relationship between rarely doing physical activity with the incidence of primary dysmenorrhea.

Research conducted by Nada Ismalia 2015, found that there is a significant relationship between physical activity and primary dysmenorrhea. There is no significant relationship between stress and primary dysmenorrhea. There is a significant relationship between fast food consumption and primary dysmenorrhea. There was no significant relationship between passive smoking and primary dysmenorrhea in female students of the Faculty of Medicine, University of Lampung, class of 2015.

According to Chen et al. in TA Larasati and Faridah Alatas' research (2016), epidemiological studies show a relationship between dysmenorrhea and several environmental risk factors, including smoking and coffee consumption. In 165 women who were exposed to cigarette smoke and consumed coffee, 13.3% of them suffered from dysmenorrhea. A study shows a relationship between dysmenorrhea and women who are passively exposed to cigarette smoke. It has been reported that women who are passively exposed to cigarette smoke suffer from dysmenorrhea for a longer time than those who are not exposed. The effect of passive smoking on dysmenorrhea was observed to increase by 30% compared to those who did not smoke passively.

Based on a preliminary study conducted at Stikes Abdi Nusantara Jakarta on 20 nursing students, it was found that 20 people (90%) had primary dysmenorrhea. This is greater than at Stikes Bani Saleh, where 16 female students (80%) experienced primary dysmenorrhea. Therefore, the author is interested in conducting research with the title: The relationship between lifestyle and the incidence of primary dysmenorrhea in study program students

Research conducted by Nada Ismalia 2015, found that there is a significant relationship between physical activity and primary dysmenorrhea. There is no significant relationship between stress and primary dysmenorrhea. There is a significant relationship between fast food consumption and primary dysmenorrhea. There was no significant relationship between passive smoking and primary dysmenorrhea in female students of the Faculty of Medicine, University of Lampung, class of 2015.

According to Chen et al. in TA Larasati and Faridah Alatas' research (2016), epidemiological studies show a relationship between dysmenorrhea and several environmental risk factors, including smoking and coffee consumption. In 165 women who were exposed to cigarette smoke and consumed coffee, 13.3% of them suffered from dysmenorrhea. A study shows a relationship between dysmenorrhea and women who are passively exposed to cigarette smoke. It has been reported that women who are passively exposed to cigarette

smoke suffer from dysmenorrhea for a longer time than those who are not exposed. The effect of passive smoking on dysmenorrhea was observed to increase by 30% compared to those who did not smoke passively.

Based on a preliminary study conducted at Stikes Abdi Nusantara Jakarta on 20 nursing students, it was found that 20 people (90%) had primary dysmenorrhea. This is greater than at Stikes Bani Saleh, where 16 female students (80%) experienced primary dysmenorrhea. Therefore, the authors are interested in conducting research with the title: The relationship between lifestyle and the incidence of primary dysmenorrhea in female students of the Stikes Abdi Nusantara Jakarta Bachelor of Nursing Study Program for the July 2020 period.

METHODS

This study used a quantitative research design with a cross sectional approach. With a sample of 50 respondents. The tools used to collect data were the FFQ questionnaire and nutritional status, tensimeter, microtoise and bathroom scale and digital scales. The analysis used in this study was univariate analysis which included age, sex, recent education, diet, nutritional status and incidence of hypertension. Meanwhile, bivariate analysis in this study was used to determine the relationship between diet and nutritional status with the incidence of hypertension in the outpatient ward of the Happy Public Health Center in 2023.

RESULTS

Table 1. Distribution of the frequency of primary dysmenorrhea among respondents at Stikes Abdi Nusantara Jakarta for the July 2020 period

No	Dysmenorrhea Primer	Frecuency	Percentage
1	Yes	164	91,5%
2	No	13	8,5%
Total		177	100%

Table 2. Frequency distribution of stress among respondents at Stikes Abdi Nusantara Jakarta for the period July 2020

No	Stres	Frecuency	Percentage
1	Stress	129	72,9%
2	Stres	48	27,1%
Total		177	100%

Table 3. Frequency distribution of Fast Food consumption among respondents at Stikes Abdi Nusantara Jakarta for the July 2020 period

	Fast Food Consumption	Frecuency	Percentage
1	Low	29	16,4%
2	Tinggi	148	83,6%
Total		177	100%

Table 4. Distribution of the frequency of passive smoking among respondents at the Stikes Abdi Nusantara Jakarta for the July 2020 period

No	Passive Smoker	Frequency	Percentage
1	Yes	84	47,5%
2	No	93	52.5%
Total		177	100%

B. Bivariate analysis**Table 5. The Relationship between Stress and Primary Dysmenorrhea at Stikes Abdi Nusantara Jakarta for the July 2020 Period**

Stress	Dismenore Primer				Total		P Value	O Ratio
	yes		no		F	%		
	F	%	F	%				
Tidak Stress	117	90,7	12	9,3	129	100	0,02	4,029
Stress	45	93,7	3	6,3	48	100		
Total	164	91,5	13	8,5	177	100		

Table 6. Hubungan Konsumsi *Fast Food* dengan Kejadian Dismenore Primer di Stikes Abdi Nusantara Jakarta Periode Bulan Juli 2020

Fast Food Consumption	Dismenore primer				Total		P Value	O Ratio
	Yes		No		F	%		
	F	%	F	%				
Rendah	23	79,3	6	20,7	29	100	0,02	0,02
Tinggi	139	93,9	9	6,1	148	100		
Total	162	92,7	15	7,3	177	100		

Table 7. Hubungan Konsumsi Perokok Pasif dengan Kejadian Dismenore Primer di Stikes Abdi Nusantara Jakarta Periode Bulan Juli 2020

Passive Smoker	Dismenore Primer				Total		P Value	O Ratio
	Yes		No		F	%		
	F	%	F	%				
Ya	79	94	5	6	84	100	0,382	1,904
Tidak	83	89,2	10	10,8	93	100		
Total	165	91,5	15	8,5	177	100		

DISCUSSION

Relationship of Stress with Primary Dysmenorrhea

Research conducted at Stikes Abdi Nusantara Jakarta found that out of 129 respondents who said they were not stressed, 119 (90.7%) had primary dysmenorrhea and 12 (9.3%) did not have primary dysmenorrhea. Meanwhile, of the 48 respondents who said they were stressed, 45 (93.7%) had primary dysmenorrhea and 3 (6.3%) said they had no primary dysmenorrhea.

The statistical test results of this study used the chi-square test with a p-value of 0.73 which showed that there was no relationship between stress and the incidence of primary dysmenorrhea in female students of the S1 Nursing Study Program, Stikes Abdi Nusantara Jakarta. OR = 0.6 (less than 1) which indicates that the relationship between stress and primary dysmenorrhoea is not strong.

The results of the study are in line with those conducted by Diana Sari (2015) concerning the relationship between stress and the incidence of primary dysmenorrhea in medical students at the medical faculty of Andalas University, showing that respondents who experienced mild primary dysmenorrhea were mostly experienced by respondents who experienced mild stress (54%). Respondents who experienced moderate dysmenorrhea were 55% and respondents who experienced severe dysmenorrhea were mostly experienced by respondents who experienced severe stress (82%). Based on statistical tests, the value of $p = 0.6$ was obtained. It can be concluded that there is no significant relationship between stress levels and the degree of primary dysmenorrhea in medical students at the Faculty of Medicine, Andalas University.

Stress is one of the physiological, psychological and behavioral responses in adapting to internal and external pressures. Adolescence is often said to be a period of "storm and pressure" or storm and stress, a time when emotional tension increases due to physical and glandular changes that cause adolescents to be very sensitive and prone to stress. At times of stress, the body will produce excessive estrogen and prostaglandin hormones, causing an increase in uterine contractions excessively resulting in pain during menstruation. The adrenaline hormone also increases and causes the body's muscles to tense up including the uterine muscles and become painful during menstruation. (Sari, Adnil & Defrin, 2015).

The Relationship between Fast Food Consumption and Primary Dysmenorrhea

From the research results, it can be seen that of the 29 respondents who stated that their fast food consumption was low, 23 (79.3%) experienced primary dysmenorrhea and 5 (20.7%) respondents did not experience primary dysmenorrhea. Of the 148 respondents who stated that they consumed high levels of fast food, 139 (93.9%) stated that they experienced primary dysmenorrhea, and 9 (6.1%) respondents did not experience primary dysmenorrhea.

The statistical test results of this research used the chi-square test with a p-value of 0.023 which shows that there is a relationship between fast food consumption and the incidence of primary dysmenorrhea in students of the Abdi Nusantara Jakarta S1 Nursing Study Program. The OR value is 4.029 which means that female students who consume high amounts of fast food have a 4.029 chance of experiencing primary dysmenorrhea.

The results of this research are in accordance with research conducted (F, Nuzula & Oktaviana, M. N. (2019). The majority of respondents consumed fast food as many as 38 respondents (63.3%) and 34 of them experienced (75.6%) dysmenorrhea, obtained χ^2 test results with a p value = 0.001 is smaller than $\alpha = 0.05$, so the conclusion is that there is a relationship between fast food consumption and the incidence of dysmenorrhea in second year female students at the Rustida Krikilan Health Academy

Hussein (2013) explains that the intake of unsaturated fatty acids in the diet is the beginning of the prostaglandin release cascade which causes dysmenorrhea. Fast food also contains trans fatty acids which are a source of free radicals. One of the effects of free radicals is damage to cell membranes (Messier, 2009). If the body consumes more and more fast food, the more prostaglandins in the body will cause dysmenorrhea. (F Nuzula & Oktaviana, M. N. (2019).

Relationship of passive smoking with the incidence of primary dysmenorrhea

From the research results, it can be seen that of the 84 respondents, 79 (94%) of respondents stated that they were passive smokers who stated that they had primary dysmenorrhea, while 5 (6%) respondents did not have primary dysmenorrhea. Of the 93 (100%) respondents who said they were not passive smokers, 83 (89.2%) respondents said they had primary dysmenorrhea and 9 (9.8%) said they did not have primary dysmenorrhea.

The statistical test results of this research used the Chi-square test with a p-value of 0.247 which shows that there is no relationship between the consumption of passive smoke and primary dysmenorrhea in undergraduate nursing students at Stikes Abdi Nusantara Jakarta. The OR value is 1.904 which means that female students who are passive smokers 1.904 times experience primary dysmenorrhea.

According to Megawati (2006) in research (F Nuzula & Oktaviana, M. N. (2019). smoking can cause dysmenorrhea because cigarettes contain substances that can affect estrogen metabolism, while estrogen plays a role in regulating the menstrual process and estrogen levels must be sufficient in the body. Estrogen if the levels are high less it will interfere with metabolism so that it will cause disturbances in the reproductive organs including dysmenorrhea.

The results of this study are in contrast to the results of research conducted (Novella Putri Whanda 2019) bivariate analysis using the Chi-Square test, the result was $p=0.029$ ($p<0.05$) which shows that there is a significant relationship between exposure to environmental cigarette smoke and primary dysmenorrhea in student of the Faculty of Civil Engineering and Planning, Trisakti University, Grogol, West Jakarta.

CONCLUSION

The conclusions obtained from research conducted on 177 students of the Abdi Nusantara Jakarta S1 Nursing Study Program are as follows. The incidence of primary dysmenorrhea in female students of the Bachelor of Nursing Study Program at Stikes Abdi Nusantara Jakarta for the July 2020 period was 91.5% (164 respondents).

There is no relationship between stress and passive smoking and primary dysmenorrhea in students of the Abdi Nusantara Jakarta S1 Nursing Study Program.

There is a relationship between fast food consumption and primary dysmenorrhea in students of the Abdi Nusantara Jakarta S1 Nursing Study Program. Female students who consume a lot of fast food have a 4.029 chance of experiencing primary dysmenorrhea

REFERENCES

- Angelina, A., Ridha, A., & Alamsyah, D. (2018). Faktor Yang Berhubungan Dengan Dismenore Pada Remaja Putri Di Sekolah Menengah Atas Kecamatan Sengah Temila Kabupaten Landak. *Jumantik*, 5(1).
- Anurogo.(2011).*Cara Jitu Mengatasi Nyeri haid*.Yogyakarta: Andi Yogyakarta, Hal. 99-104
- Bavil Et Al. 2016. Comparison Of Lifestyles Of Young Women With And Without Primary Dysmenorrhea. *Electronic Journal Physician*. 8(3): 2107-14.

- Bavil, Dina Abadi., Dolatian, Et Al, 2016. Comparison Of Lifestyles Of Young Women With And Without Primary Dysmenorrhea. *Electronic Journal Physician*. 8(3):2107-14.
- Bavil, Dina Abadi., Dolatian, Et Al. 2016. Comparison Of Lifestyles Of Young Women With And Without primary Dysmenorrhea. *Electronic Journal Physician*. 8(3):2107-14.
- Charu S, Amita R, Sujoy R, Thomas Ga. Menstrual Characteristics And Prevalence And Effect Of Dysmenorrhea On Quality Of Life Of Medical Students. *International Journal Of Collaborative Research On Internal Medicine & Public Health*. 2015; 4(4):276-94.
- Dadang Hawari,. 2008. Menajemen Stres Cemas Dan Depresi. Fakultas Kedokteran Universitas Indonesia: Jakarta, Hal 213-219
- Duwi, F. (2020). Pengaruh Pemberian Ekstrak Tomat Terhadap Penurunan Tingkat Nyeri Dismenorea Primer Pada Remaja Desa Kalitengah Kecamatan Sugio Kabupaten Lamongan. *Jurnal Surya*, 1(2), 1-10.
- Fitriana, N. W., Utami, F. S., & Djufri, S. (2017). Hubungan Tingkat Stres Dengan Kejadian Dismenore Pada Mahasiswa D Iv Kebidanan Semester Viii Universitas 'Aisyiyah Yogyakarta (Doctoral Dissertation, Universitas' Aisyiyah Yogyakarta). [Http://www.Mcrjournal.Or.Id/Index.Php/Jmcrh/Article/View/45](http://www.mcrjournal.or.id/index.php/jmcrh/article/view/45) Di Akses 25 Mei 2020 Jam 09:30
- Halodoc, 2020.Faktor Resiko Dismenore:Jakarta
[Http://Digilib.Unila.Ac.Id/25450/3/Skripsi%20tanpa%20bab%20pembahasan.Pdf](http://digilib.unila.ac.id/25450/3/skripsi%20tanpa%20bab%20pembahasan.pdf) Diakses Tanggal 17 Mei 2020 Jam 08:15
[Http://Juke.Kedokteran.Unila.Ac.Id/Index.Php/Majority/Article/View/1040](http://juke.kedokteran.unila.ac.id/index.php/majority/article/view/1040) Diakses 20mei 2020 Jam 11:30
[Http://Www.P2ptm.Kemkes.Go.Id/Informasi-P2ptm/Stress](http://www.p2ptm.kemkes.go.id/informasi-p2ptm/stress) , Diakses Tanggal 19 Mei 2020 Jam 14:10
[Https://Www.Halodoc.Com/Kesehatan/Dismenore](https://www.halodoc.com/kesehatan/dismenore) Diakses Tanggal 16 Mei 2020 Jam 09:30
- Imtihani, T.R., Noer, E.R. 2013. Hubungan Pengetahuan, Uang Saku, Dan Peergroup Dengan Frekuensi Konsumsi Makanan Cepat Saji Pada Remaja Putri. *Journal Of Nutrition College*.2(1): 162-69
- Indriani, I. O. (2019). Hubungan Indeks Massa Tubuh Dan Aktifitas Fisik Dengan Kejadian Dismenore Pada Siswa Di Sma Negeri 1 Loa Kulu Tahun 2019.(*Jurnal Kebidanan*)
- Ismalia, Nada. 2015. Hubungan Gaya Hidup Dengan Kejadian Dismenore Primer Pada Mahasiswi Kedokteran Universitas Lampung. Bandar Lampung
- Kemenkesri.2020.Direktorat Pencegahan Dan Pengendalian Penyakit Tidak Menular
[Http://Www.P2ptm.Kemkes.Go.Id/Infographic-P2ptm/Penyakit-Paru-Kronik/Page/20/Apa-Itu-Perokok-Pasif](http://www.p2ptm.kemkes.go.id/infographic-p2ptm/penyakit-paru-kronik/page/20/apa-itu-perokok-pasif) , Diakses Tanggal 19 Mei 2020 Jam 14:20
- Kemenkesri.2020.Direktorat Promosi Kesehatan Dan Peberdayaan Masyarakat kementerian kesehatan. [Http://Promkes.Kemkes.Go.Id/Content/?P=8807](http://promkes.kemkes.go.id/content/?p=8807) Diakses Tanggal 19 Mei 2020 Jam 16:00
- Kotler, Philip Dan Gary Armstrong, 2012. Principles Of Marketing, Edisi 14, New Jersey: Prentice-Hall Published.
- Kristianti, N., Sarbini, D., Dan Mutalazimah. 2009. Hubungan Pengetahuan Gizi Danfrekuensi Konsumsi Fast Fooddengan Status Gizi Siswa Sma Negeri 4surakarta.*Jurnal Kesehatan*.2(1): 39-47
- Kumalasari, I. And Iwan Andhyantoro (2015) Kesehatan Reproduksi Untuk Mahasiswa Kebidanan Dan Keperawatan. Jakarta: Salemba Medika
- Kusmindarti, I. (2016). Sport Habits With Dismenorea Events In Youth Daughters In The Mojokerto Aerobic Gym Community. *Midwifery Journal Of Akbid Griya Husada Surabaya*, 3(1), 53-60.

- Larasati, T. A., & Alatas, F. (2016). Dismenore Primer Dan Faktor Risiko Dismenore Primer Pada Remaja. *Jurnal Majority*, 5(3), 79-84.
- Notoadmojo, S. (2015). *Metode Penelitian Kesehatan*. Jakarta: Penerbit Pt Rineka Cipta.
- Nugroho, T & Utama, B, I.(2014). *Masalah Kesehatan Reproduksi Wanita*. Nuha Medika, Yogyakarta, Hal 117.
- Prawirohardjo, Sarwono. 2010. *Buku Acuan Nasional Pelayanan Kesehatan Maternal Dan Neonatal*. Jakarta : Pt Bina Pustaka Sarwono Prawirohardjo, Hal 362
- Purwati, A. E. (2020). Hubungan Gaya Hidup Dengan Kejadian Dismenore Pada Remaja Putri Di Pondok Pesantren Nurul Huda Bantarcingin Ciharalang Kabupaten Ciamis. *2-Trik: Tunas-Tunas Riset Kesehatan*, 10(1), 59-65.
- Reeder, Martin, & Koniak-Griffin. (2013). *Keperawatan Maternitas Kesehatan Wanita, Bayi & Keluarga Edisi 8 Vol 1*. Jakarta: Egc, Hal. 586
- Reeder, Martin, & Koniak-Griffin. (2013). *Keperawatan Maternitas Kesehatan Wanita, Bayi & Keluarga Edisi 8 Vol 1*, Hal 156-165
- Sinclair. 2010. *Buku Saku Kebidanan*. Jakarta : Egc, Hal 312
- Sulistiyorinin (2017) *Buku Ajar Keterampilan Dasar Praktik Klinik Kebidanan*. Yogyakarta: Pustaka Rihanna.
- Unsal, A., Ayranci, U., Tozun, M., Arslan, G., Dan Calik, E. 2010. Prevalence Of Dysmenorrhea And Its Effect On Quality Of Life Among A Group Of Female University Students. *Upsala Journal Of Medical Science*.115: 138-45.
- Yunitasari, R. (2017). *Karakteristik Dan Tingkat Stres Siswi Dengan Kejadian Dismenore Primer Di Smp N 3 Sragi Pekalongan (Doctoral Dissertation, Universitas Muhammadiyah Semarang)*. [Http://Repository.Unimus.Ac.Id/937/3/Bab%20ii.Pdf](http://Repository.Unimus.Ac.Id/937/3/Bab%20ii.Pdf) Diakses 15 Mei 2020
- Yuniyanti, Bekti. 2014. Hubungan Tingkat Stres Dengan Tingkat Dismenore Pada Siswi Kelas X Dan Xi Smk Bhakti Karyakota Magelang Tahun 2014. *Jurnal Kebidanan*. 7(3):2-3.