LENTERA KAJI
Lembaga Penelitian dan Terapan Untuk Kesehatan Jiwa

e-ISSN 2622-2655
JURNAL CMHP
(Journal Of Community Mental Health And Public Policy)

PORTRAYAL OF DISMENORRHEA BASED ON MENARCHE AGE, STRESS, AND EATING CONSUMPTION OF STUDENTS IN SCHOOL OF HEALTH AND LIFE SCIENCES: A CROSS-SECTIONAL STUDY

Gambaran Dismenorea Menurut Usia Menarche, Stres, Dan Konsumsi Makan Mahasiswi Sekolah Ilmu Kesehatan Dan Ilmu Alam: Studi Cross-Sectional

Mifaidah Kusumawati[1], Syahrul Ramadhan[1], Ayik Mirayanti Mandagi[2], Mohammad Zainal Fatah[3]
[1] Department of Environmental Health, School of Health and Life Sciences, Universitas Airlangga, Indonesia
[2] Department of Epidemiology, School of Health and Life Sciences, Universitas Airlangga, Indonesia
[3] Department of Health Promotion and Behavioral Sciences, School of Health and Life Sciences, Universitas Airlangga, Indonesia
mifaidah.kusumawati-2019@fkm.unair.ac.id

ARTICLE INFO

Article History:
Received: May 27th, 2023

Revised:
From June 05th, 2023

Accepted: July 17th, 2023

Published: October 01st, 2023

ABSTRACT

Background: Factors that can influence of dysmenorrhea are menarche age, stress, consuming fast food, alcohol, and smoking. **Purpose:** Analysing the strong relationship between the incidence of primary dysmenorrhea and menarche age, stress, and food consumption of School of Health and Life Sciences, Universitas Airlangga students. **Methods**: This is cross-sectional study of 51 respondents with independent variables menarche age, stress level, and food consumption pattern, and dependent variable was primary dysmenorrhea. Data analysis used a statistical test the strength of the relationship by looking at the contingency coefficient (c). **Results**: Most of the female students experienced dysmenorrhea in the mild and moderate pain category was 23 people (43.4%), menarche age of 11-13 years was 45 people (84.9%), normal stress was 17 people (32.1%), unhealthy eating patterns was 31 people (58.5%). There was a weak relationship between menarche age and primary dysmenorrhea (c=0.105), a moderate relationship between stress and primary dysmenorrhea (c=0.495) and a weak relationship between food consumption patterns and primary dysmenorrhea (c=0.347). **Conclusion**: Female students had primary dysmenorrhea in the mild and moderate pain categories, stress levels were in the normal category, and food consumption patterns were in the poor category. The most related factor was the stress factor.
Keywords: age of menarche, food consumption pattern, female students, primary dysmenorrhea, stress level.

ABSTRAK

Latar Belakang: *Faktor-faktor yang dapat memengaruhi terjadinya dismenorea antara lain usia menarche, stres, mengonsumsi makanan cepat saji, mengonsumsi alkohol, dan merokok.* ***Tujuan:*** *Menganalisis kuat hubungan kejadian faktor dismenorea primer dengan usia menarche, stres, dan konsumsi makan mahasiswi Sekolah Ilmu Kesehatan dan Ilmu Alam Universitas Airlangga.* ***Metode:*** *Ini adalah studi cross-sectional pada 51 responden dengan variabel independen yaitu usia menarche, tingkat stres, dan pola konsumsi makanan, dan variabel dependen yaitu dismenorea primer. Analisis data menggunakan uji statistik kuat hubungan dengan melihat koefisien kontingensi (c).* ***Hasil:*** *Mayoritas mahasiswi mengalami dismenorea pada kategori nyeri ringan dan sedang sebanyak 23 (43,4%), usia menarche 11-13 tahun sebanyak 45 (84,9%), stres normal sebanyak 17 (32,1%), pola konsumsi makan tidak baik sebanyak 31 (58,5%). Terdapat hubungan lemah usia menarche dengan dismenorea primer (c=0,105), hubungan yang sedang tingkat stress dengan dismenorea primer (c=0,495) dan hubungan lemah pola konsumsi makan dengan dismenorea primer (c=0,347).* ***Kesimpulan:*** *Mahasiswi memiliki dismenorea primer pada kategori nyeri ringan dan sedang, tingkat stres terdapat pada kategori normal, pola konsumsi makan pada kategori tidak baik. Faktor yang paling berhubungan yaitu faktor stress.*
Kata kunci: *dismenorea primer, mahasiswi, pola konsumsi makanan, tingkat stres, usia menarche*

INTRODUCTION

Adolescence is a transition period from puberty to adulthood, namely at 11-20 years old. During this transitional period, individuals mature physiologically, psychologically, mentally, emotionally and socially. Adolescence is also marked by the appearance of primary sex characteristics, which are influenced by the start of the working of the reproductive glands. This occurs in women who experience puberty, which is marked by menstruation. Menstruation is releasing blood from the uterus through the vagina every month during the childbearing period (Qomarasari 2021).

The first menstrual period is known as menarche. Commonly, menarche is categorized based on age. If it occurs at the age of menarche<12 years, it is called as early menarche, 11-13 years is normal menarche, and age>13 years was late menarche (Aulya et al., 2021). Menstruation experienced by a woman is usually accompanied by several symptoms, such as cramps, pain, and discomfort. These symptoms are known as primary dysmenorrhea.

Primary dysmenorrhea can interfere with productivity and daily activities in women. The onset of primary dysmenorrhea is during late adolescence or 15-25 years (Pangestu dan Fatmarizka, 2022). The incidence of primary dysmenorrhea in the world is huge. More than 50% of women experience menstrual pain. In America, the percentage is around 60%, it is around 72% in Sweden, while data in Indonesia, the incidence of dysmenorrhea is 64.25%, consisting of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea (Hendarini, 2014). The incidence of dysmenorrhea in Indonesia is still relatively high. According to Fatmawati et al., (2016), the incidence of primary dysmenorrhea in Central Java was generally found to be 56% of the samples studied. In addition, the prevalence of primary dysmenorrhea that occurs in adolescents in Surakarta city is found to be 87.7% (Handayani et al., 2016).

Dysmenorrhea can occur in women of various ages who have menstruated, one of them is experienced by female students. Female students have busy academic schedules such as lectures, internships, medical skills, exams, and extracurricular activities, which can cause stress, eating disorders, and lack of rest resulting in headaches, nausea, vomiting, diarrhoea, and even fainting Taqiyatun (2021). There are several studies on female students in Indonesia related to the incidence of dysmenorrhea. Research conducted by Fasya et al., (2022) on female students of the Faculty of Medicine, Al-Azhar Mataram Islamic University, it was found that the majority of respondents were found to have primary dysmenorrhea as many as 105 (78.9%) and 28 respondents (21.1%) did not experience primary dysmenorrhea. A similar study conducted by Astrida (2022) on final-year female students at Sekolah Tinggi Ilmu Kesehatan Hang Tuah Surabaya showed that 32 (39.5%) respondents had moderate dysmenorrhea, 29 (35.8%) respondents had mild dysmenorrhea, 16 (19.8%) respondents had severe dysmenorrhea. The research conducted by Syamsuriyati et al., (2022) on female midwifery students at Megarezky Makassar Universitas stated that 44 students (64.7%) experienced dysmenorrhea, while 24 students (35.5%) did not experience dysmenorrhea. This illustrated that primary dysmenorrhea sufferers are women adolescents still attending a relatively high level of education.

Factors that influence some of the development of primary dysmenorrhea include age at menarche, stress levels, lack of or never exercising, menstrual cycles that are long or longer than usual (7 days), and unhealthy eating patterns (Qomarasari 2021). Early age of menarche is a risk factor

influencing the incidence of primary dysmenorrhea. This is because the reproductive organs are not ready to experience changes, so pain will occur during menstruation (Mandasari, 2021). Research conducted by Aulya et al., (2021) on female students at Junior High School 109 Jakarta showed that 30 women adolescent experienced dysmenorrhea in the fast menarche age category <11 years (78.9%). A similar study was also conducted by Jayanti (2021) on female midwifery students at the Gatot Soebroto Army Hospital, where most of those who experienced menarche were at a vulnerable age of 11-13 years, as many as 26 respondents (44.10%). Based on the chi-square statistical test results, a p-value = 0.002<0.05 was obtained; this indicates a relationship between the age of menarche and the occurrence of dysmenorrhea. However, in contrast, the research by Pundati et al. (2016), showed that as many as 49 (57.6%) respondents had an average menarche age of>12 years. Based on the results of the chi-square statistical test, it was found that the p-value = 1.000>0.05; this indicates no relationship between the menarche age and the incidence of dysmenorrhea.

Stress is a mental and emotional disturbance or disorder caused by external factors; one of the causes of dysmenorrhea is a psychological factor, which is stress (Pialiani et al., 2018). The causes of stress in female students can be sourced from within and outside, such as stress because of parents' high academic achievement demands or from outside the surrounding environment. Academic and non-academic stress contribute to increased stress levels in female students. A study conducted by Pialiani et al., (2018) on medical students at the Islamic University of Bandung found that 110 groups of subjects experienced severe stress with more severe dysmenorrhea than subjects in the mild stress category. Given the high prevalence of dysmenorrhea from the results of a study by Pialiani et al., (2018), the findings of Putri et al., (2021) examined that stressful conditions cause the most triggers for dysmenorrhea in adolescents. Research by Sihombing et al., (2023) on female students of the Faculty of Medicine, Universitas Muhammadiyah North Sumatra, said that as many as 44 people (46.3%) with the most stress levels were in normal conditions with normal menstrual cycles.

Some facts also stated that a healthy diet can minimize the occurrence of dysmenorrhea, while having an unhealthy diet will trigger dysmenorrhea. Research conducted by Damayanti et al., (2022) found that the food consumed by respondents on average, had good fat intake. However, some respondents had excessive fat, iron, and calcium intake. Excess fat intake is obtained from consuming foods such as meat, fried foods, coconut milk, junk food, etc. Thus, the results of the chi-square analysis of fat on the severity of dysmenorrhea obtained p = 0.001, for Fe, Ca and the amount of intake that did not match the degree of severity of dysmenorrhea obtained p = 0.000. However, for the frequency of dysmenorrhea obtained p = 0.773.

The novelty in this study, when compared to research by Putri et al., (2021), is the use of measurement for each variable using DASS 42 (Depression, Anxiety and Stress Scale 42), primary dysmenorrhea with WaLIDD (Working ability, Location Intensity, Days of pain), and eating patterns in adolescents using the Adolescent Food Habits Checklist (AFHC). In addition, the research subjects of this study were female students. Based on this, the researcher aims to provide an overview of the incidence of primary dysmenorrhea factors based on menarche age, stress, and food consumption of female students of the School of Health and Life Science, Universitas Airlangga.

METHOD

This type of research was a quantitative study using a cross-sectional approach, observation, or data collection at one time (Abduh et al., 2022). The population in this study were all School of Health and Life Science students Universitas Airlangga Banyuwangi class of 2019, 2020, 2021 and 2022, totaling 153 people. Sample of study was taken by using a purposive sampling technique. The inclusion criteria in this study were female students who, in the last 3 months, had experienced lower abdominal pain during menstruation and when the lower abdominal pain began. The number of samples obtained according to the criteria in this study was 51 respondents. The questionnaire was filled out online using the Google form given to respondents who met the sample criteria. The independent variables in this study were menarche age, stress levels, and food consumption patterns. The dependent variable was primary dysmenorrhea.

The instruments in this study were the DASS 42 questionnaire to measure female student stress levels, the (WaLIDD) Working ability, Location Intensity, Days of pain questionnaire to measure primary dysmenorrhea and to measure eating patterns using the Adolescent Food Habits Checklist (AFHC) questionnaire. In measuring the stress variable using the DASS 42 questionnaire, 14 questions were taken about stress from each question covering three sub-variables: physical, emotional/psychological, and behavioral. If there is no or never felt stress giving a score of 0, if it corresponds to what is experienced to a certain degree or sometimes giving a score of 1, if it is often giving a score of 2, and if it is very appropriate to what is experienced or almost all the time giving a score of 3. Stress level category by adding up all the scores. The normal category is in the 0-14 range, the mild category is in the 15-18 range, the moderate category is in the 19-25 range, the severe category is in the 26-33 range, and the very severe category is in the >34 range. Furthermore, there are 4 questions on the dysmenorrhea gauge with a maximum score of 12. Respondents do not experience primary dysmenorrhea if given a score of 0, mild primary dysmenorrhea if given a score of 1-4, moderate primary dysmenorrhea if given a score of 5-7 and severe primary dysmenorrhea given a score of 8-12.

The Adolescent Food Habits Checklist (AFHC) questionnaire instrument contains 23 items that measure food consumption patterns with the goal of raising female respondents' awareness of hazardous eating habits. measuring with precision the good eating habits of teenagers. Those who were deemed to have reacted positively to the question about healthy eating habits received one point; the scale went from 1 for "yes" or "agree" to 0 for "disagree," while the scores for "rarely" and "often" ranged from 1 to 23.

The research in this article was approved for publication by the Letter Writing Ethics Committee of the Faculty of Dentistry, Universitas Airlangga, in written form with the number 478/HRECC.FODM/V/2023 and stipulated on May 15, 2023. The data analysis was obtained by collecting data through a questionnaire and then analyzing it using the Statistical Package for the Social Sciences (SPSS) 18. The test used a significant level of 5% (α=0.05). The test performed is the correlation test using the contingency coefficient (c). The interpretation of the relationship value used a correlation coefficient value, namely 0.000 to 0.1999, which has a very weak relationship, 0.200-0.399 has a weak relationship, 0.400-0.599 has a moderate relationship, 0.600-0.799 has a strong relationship, and 0.800-1.000 for a very strong relationship. Sugiyono (2017).

RESULT

The frequency data presented included four variables. The data was presented in Table 1. By presenting the menarche age, stress levels, incidence of dysmenorrhea, and food consumption patterns of 51 research respondents on female students at School of Health and Life Sciences.

Table 1. Frequency Distribution of School of Health and Life Sciences Student based on Menarche Age, Stress Level, Dysmenorrhea, Food Consumption Pattern.

Menarche Age	**Students Number**	**Percentage (%)**
Early Menarche (less than 11 Years)	2	3.8%
Menarche Normal (11-13 Years)	45	84.9%
Late Menarche (over 13 Years)		1l.3%
Stress Level	**Students Number**	**Percentage (%)**
Normal	17	32.1%
Mild	14	26.4%
Moderate	15	28.3%
Severe	7	13.2%
Dysmenorrhea	**Students Number**	**Percentage (%)**
Mild	23	43.4%
Moderate	23	43.4%
Severe	7	13.2%
Eating Consumption Pattern	**Students Number**	**Percentage (%)**
Poor	31	58.5%
Good	22	41.5%
Total	**51**	**100%**

Source: Primary Data

The study results from 51 female students showed that 31 (58.5%) female students had unhealthy eating patterns, while 22 (41.5%) of respondents consumed an excellent diet. Furthermore, it can be seen that most respondents experienced normal stress levels of 17 (32.1%) and moderate stress levels of 15 (28.3%). At the menarche age, it is included in the normal category (11-13 years) which was 45 (84.9%). Based on the research, it can be concluded that there is a strong relationship between student stress and dietary consumption on the incidence of primary dysmenorrhea. Whereas at the age of menarche female students, the incidence of primary dysmenorrhea is insignificant.

Table 2. Cross-tabulation of menarche age, stress level, and food consumption patterns in School of Health and Life Sciences female students with primary dysmenorrhea.

	Primary Dysmenorrhea						**Total**		***r***
	Mild		**Moderate**		**Severe**				
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	
Usia Menarche	1	1.9	1	1.9	0	0	2	3.8	
Early Menarche (less than 11 Years)	20	37.7	19	35.8	6	11.3	45	84.9	**0.105**
Menarche Normal (11-13 Years)	2	3.8	3	5.7	1	1.9	6	11.3	
Late Menarche (over 13 Years)	23	43.4	23	43.4	7	13.2	53	100	
Stress Level									
Normal	9	17	7	13.2	1	1.9	17	32.1	
Mild	7	13.2	5	9.4	2	3.8	14	26.4	**0.495**
Moderate	6	11.3	9	17	0	0	15	28.3	
Severe	1	1.9	2	3.8	4	7.5	7	13.2	
Eating Consumption Pattern									
Poor	9	17	18	34	4	7.5	31	58.5	**0.347**
Good	14	26.4	5	9.4	3	5.7	22	41.5	

Based on the study's results, the menarche age variable has a correlation value (r) of 0.105 which means there was a very weak relationship between dysmenorrhea and menarche. The correlation coefficient (r) was 0.495 in the stress level variable, which means that the relationship between dysmenorrhea and stress levels was moderate. The food consumption pattern variable has a correlation value (r) of 0.347, where the relationship between dysmenorrhea and food consumption patterns was weak.

DISCUSSION

Respondents who experienced dysmenorrhea partially stated that pain was felt just before or during menstruation. Symptoms experienced by all respondents related to dysmenorrhea was pain in the lower abdomen dominated. Research Martin et al. (2021) explained that dysmenorrhea almost always occurs before or after, starting from 1-2 days before the exact day of menstruation. Pain during dysmenorrhea is usually felt during the first few days of menstruation but can occur on the day of menstruation.

The results of the frequency distribution regarding dysmenorrhea experienced by female students at School of Health and Life Sciences, Universitas Airlangga Banyuwangi found that most of the respondents suffered from mild dysmenorrhea and moderate dysmenorrhea, namely 23 respondents (43.4%) and only 7 respondents (13.2%) who suffer from severe dysmenorrhea. In line with the research of Kusyanti & Fay, (2023) in female midwifery students, it was found that 43 respondents (63.2%) experienced mild dysmenorrhea. In addition, research by Artawan et al., (2022) on nursing students at Institute Teknologi dan Kesehatan Bali stated that 67 people (46.2%) suffer from moderate dysmenorrhea.

The findings of the research suggest that the majority of respondents—up to 45 respondents, or 84.9%—experience normal menarche age between the ages of 11 and 13 years, which is a vulnerable period. The major dysmenorrhea group of respondents who are menarche age is not associated, according to the results of the chi-square statistical test, which indicates that the relationship between dysmenorrhea and menarche age is extremely weak (p-value = 1.000 > 0.05). According to Dwihestie (2018), 17 respondents (50%) of female students at the Universitas Aisyiyah Yogyakarta who had moderate degrees of dysmenorrhea discomfort at the time of menarche (age > 12) had an asymp sig value of 0.625 (a > 0.05). So there is no connection between menarche age and the likelihood of developing dysmenorrhea. Additionally, with a p-value of 0.05, Gustina (2015) concluded in her study that there was no association between menarche and the prevalence of dysmenorrhea in female students at Senior High School 4 Surakarta. As a result, Ha was disregarded. However, this is not in line with research conducted by Aulya et al. (2021), which found that there were 30 women adolescents at Junior High School 109 Jakarta who had early menarche<11 years of age experiencing primary dysmenorrhea (78.9%). The results of the chi-square statistical test on the menarche age and the incidence of primary dysmenorrhea showed p value = 0.043<0.05, so there was a significant relationship between the menarche age and the incidence of primary dysmenorrhea.

The research results show that most of the respondents experienced normal stress levels, as many as 17 respondents (32.1%) of the 51 respondents. Based on the cross-tabulation results, the correlation coefficient value was 0.495, which means that the relationship between dysmenorrhea and stress levels is moderate. This means

respondents under stressful conditions have a greater potential for dysmenorrhea during menstruation. In line with research by Marlanti et al., (2021) on female students at Universitas Harapan Bangsa, Purwokerto, the results showed that the stress level of female students was in the moderate category, as many as 22 respondents (50%), where there was a relationship between academic stress levels and dysmenorrhea pain levels, obtained a p-value of 0 .0001<0.05. The value of the correlation coefficient is 0.593, which means that the higher the level of academic stress, the higher the level of dysmenorrhoea pain with moderate relationship strength. In addition, Rejeki (2019) research on women adolescents at Junior High School 3 Pekalongan showed that the stress levels in Junior High School 3 Pekalongan students were mild stress (10.4%) and moderate stress (89.6%). There was a strong relationship between stress levels and primary dysmenorrhea in female students of Junior High School 3 Pekalongan with a p-value of around 0.006.

Dietary factors can influence the occurrence of dysmenorrhea and the content of macronutrients and micronutrients in the food consumed (Chowdhury dan Chakraborty, 2017). Unhealthy eating patterns such as consuming malnourished foods, skipping meals, and eating on time lead to various health problems (Kabir et al., 2018). As many as 31 respondents (58.5%), or the bulk of the respondents, have unhealthy food consumption behaviors, according to the research's findings. The link between dysmenorrhea and food consumption patterns is poor with the food consumption pattern variable having a correlation value (r) of 0.347. This is because, in the respondent's estimations, eating habits are in worse shape in the unfavorable category than they are in the favorable category. According to research by Suciati (2022) on women adolescents in Tanjungsari village, no women adolescents were found to have a healthy eating pattern. As many as 13 women adolescents had an unfavourable eating pattern or 72.2%, while 27.8% or 5 other women adolescents still felt quite good at managing their eating patterns. The value obtained is a p-value of 0.003 <0.05, meaning there is a relationship between diet and the incidence of dysmenorrhea. However, in contrast to the research by Septiyani dan Simamora, (2022), it was stated that 26.09% of respondents had a good eating pattern. To examine the relationship between diet and the incidence of primary dysmenorrhea, the Fisher's Exact test was carried out because there was an expectation value of less than 5 with a p-value of 0.419 > 0.05. So there is no relationship between diet and primary dysmenorrhea.

Every research has limitations that are lacking in research and can be used as evaluation material. The limitations of this study are that the factors that influence the incidence of primary dysmenorrhea only examine the menarche age, stress levels, and food consumption patterns. Suggestions for future research to use other variables that are a factor in the occurrence of primary dysmenorrhea.

CONCLUSION AND SUGGESTION

Based on the results and discussion, it is known that the majority of female students who experience primary dysmenorrhea are in the category of mild and moderate pain, accompanied by normal stress levels, and the consumption behaviour of eating patterns is predominantly not good. Based on the findings, it was found that the age of the respondent's menarche had a very weak relationship with the incidence of primary dysmenorrhea, stress levels had a moderate relationship with the incidence of primary dysmenorrhea, and diet had a weak

relationship with the occurrence of primary dysmenorrhea. It is expected that female students who experience primary dysmenorrhea can reduce the incidence of primary dysmenorrhea by improving their quality of life. Yoga is believed to improve physical fitness and relieve stress, thereby reducing the likelihood of primary dysmenorrhea.

ACKNOWLEDGMENT

The authors like to thank God for His will because the author can finish this article. Thanks to Mrs. Ayik Mirayanti Mandagi and Mr. Mohammad Zainal Fatah as the supervisors for the preparation of this article. Thank you also to the respondents who participated in this research.

FUNDING SOURCE

In this research, there is no source of funding.

AUTHOR CONTRIBUTION

Writer Mifaidah Kusumawati is in charge of data collection, data analysis, manuscript writing, study design, looking for references. The writer Syahrul Ramadhan is in charge of data collection, data analysis and helping to revise important content in the manuscript. Writers Ayik Mirayanti Mandagi and Mohammad Zainal Fatah are in charge of guiding articles and providing references, correcting the preparation of articles.

CONFLICT OF INTEREST

In this paper, the author does not have any conflict.

REFERENCES

Abduh, M., Alawiyah, T., Apriansyah, G., Sirodj, R. A., & Afgani, M. W. (2022). Survey Design: Cross Sectional dalam Penelitian Kualitatif. *Jurnal Pendidikan Sains Dan Komputer, 3*(01), pp. 31–39. doi: 10.47709/jpsk.v3i01.1955

Artawan, I. P., IKetut Alit Adianta, Ik. A. A., & Ida Ayu Manik Damayanti, I. A. M. D. (2022). Hubungan Nyeri Haid (Dismenore Primer) Dengan Kualitas Tidur Pada Mahasiswi Sarjana Keperawatan Tingkat Iv Itekes Bali Tahun 2022. *Jurnal Riset Kesehatan Nasional, 6*(2), pp. 94–99. doi: 10.37294/jrkn.v6i2.412

Astrida, B. (2022). Hubungan Tingkat Stres Dan Aktivitas Fisik Dengan Kejadian Dismenore Pada Mahasiswi Tingkat Akhir Di Stikes Hang Tuah Surabaya. *Keperawatan STIKES Hangtuah Surabaya, 33*(1), pp. 1–12.

Aulya, Y., Kundaryanti, R., & Rena, A. (2021). Hubungan Usia Menarche dan Konsumsi Makanan Cepat Saji dengan Kejadian Dismenore Primer pada Siswi di Jakarta Tahun 2021. *Jurnal Menara Medika, 4*(1), 10–21.

Chowdhury, S., & Chakraborty, P. pratim. (2017). Universal health coverage - There is more to it than meets the eye. *Journal of Family Medicine and Primary Care, 6*(2), pp. 169–170. doi: 10.4103/jfmpc.jfmpc

Damayanti, A. N., Setyoboedi, B., & Fatmaningrum, W. (2022). Correlation Between Dietary Habbits With Severity of Dysmenorrhea Among Aldolescent Girl. *Indonesian Midwifery and Health Sciences Journal, 6*(1), pp. 83–95. doi: 10.20473/imhsj.v6i1.2022.83-95

Dwihestie, L. K. (2018). Hubungan Usia Menarche Dan Tingkat Stres Dengan Kejadian Dismenore Primer Pada Remaja Putri. *Jurnal Ilmiah Kebidanan (Scientific Journal of Midwifery), 4(*2), pp. 77–82. doi: 10.33023/jikeb.v4i2.161

Fasya, A., Arjita, I. P. D., Pratiwi, M. R. A., & Andika, I. B. Y. (2022). Hubungan Aktivitas Fisik dan Tingkat Stres dengan Kejadian Dismenorea Primer pada Mahasiswi Fakultas Kedokteran. *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal*, *12*(3), pp. 511–526.

Fatmawati, M., Riyanti, E., & Widjanarko, B. (2016). Perilaku Remaja Puteri Dalam Mengatasi Dismenore (Studi Kasus Pada Siswi Smk Negeri 11 Semarang). *Jurnal Kesehatan Masyarakat (Undip)*, *4*(3), pp. 1036–1042.

Gustina, T. (2015). Hubungan Antara Usia Menarche dan Lama Menstruasi dengan Kejadian Dismenore Primer pada Remaja Putri di SMK Negeri 4 Surakarta [Universitas Muhammadiyah Surakarta].

Handayani, H., Gamayanti, I. L., & Julia, M. (2016). Dismenore dan Kecemasan pada Remaja. *Sari Pediatri*, *15*(1), pp. 27. doi: 10.14238/sp15.1.2013.27-31

Hendarini, A. T. (2014). Hubungan Malnutrisi dengan Kejadian Dismenorea Pada Remaja Putri di SMAN 1 Kampar Tahun 2014. *Jurnal Gizi STIKes Tuanku Tambusai Riau*, pp. 12–19.

Jayanti, C. (2021). Hubungan Status Gizi dan Usia Menarche dengan Kejadian Dismenore pada Mahasiswa Tingkat I Semester II Akademi Kebidanan RSPAD Gatot Soebroto. *Jurnal Bidan Komunitas*, *4*(2), pp. 89–95. doi: 10.33085/jbk.v4i2.4896

Kabir, A., Miah, S., & Islam, A. (2018). Factors influencing eating behavior and dietary intake among resident students in a public university in Bangladesh: A qualitative study. *PLoS ONE*, *13*(6), pp. 1–17. doi: 10.1371/journal.pone.0198801

Kusyanti, F., & Fay, A. D. J. (2023). Hubungan Antara Gangguan Menstruasi (Dismenorea) Dengan Aktifitas Belajar Pada Mahasiswa Program Studi D -Iii Kebidanan. 8(1), pp. 23–29.

Mandasari, P. (2021). Hubungan Indeks Mssa Tubuh dan Usia Menarche dengan Kejadian Dismenorea pada Remaja Putri. *Ilmiah Multi Science Kesehatan*, *13*(2), pp. 130–136.

Marlanti, S. A., Haniyah, S., & Murniati. (2021). Hubungan antara Tingkat Stres Akademik dengan Kejadian Dismenore pada Mahasiswi S1 Keperawatan Universitas Harapan Bangsa. *Prosiding Seminar Nasional Penelitian dan Pengabdian Kepada Masyarakat (SNPPKM 2021)*, pp. 257–265.

Martin, N., Hambami, S., Rahmawati, R., Fitri, J., Triani, E., Isfaizah, I., & Widyaningsih, A. (2021). IBM Akupresure untuk Mengatasi Dismenore pada Remaja Putri. *Indonesian Journal of Community Empowerment (Ijce)*, *3*(2), pp. 136. doi: 10.35473/ijce.v3i2.1271

Pangestu, R. T., & Fatmarizka, T. (2022). Dampak Dismenorea Primer Terhadap Prestasi Akademik Pada Remaja Putri : Literature Review. *Prosiding 16thUrecol: Seri Mahasiswa Student Paper*, pp. 735–744.

Pialiani, Y., Sukarya, W. S., & Rosady, D. S. (2018). Hubungan Antara Tingkat Stres dengan Dismenore pada Mahasiswi Fakultas Kedokteran Universitas Islam Bandung. *Prosiding Pendidikan Dokter*, *4*(1), pp. 89–96.

Pundati, T. M., Sistiarani, C., & Hariyadi, B. (2016). Faktor-Faktor Yang Berhubungan Dengan Kejadian Dismenore Pada Mahasiswa Semester VIII Universitas Jenderal Soedirman

Purwokerto. *Jurnal Kesmas Indonesia, 8*(1), pp. 40–48.

Putri, P., Mediarti, D., & Noprika, D. Della. (2021). Hubungan Tingkat Stres Terhadap Kejadian Dismenore Pada Remaja Putri. *JKM : Jurnal Keperawatan Merdeka, 1*(1), pp. 102–107. doi: 10.36086/jkm.v1i1.989

Qomarasari, D. (2021). Hubungan Usia Menarche, Makanan Cepat Saji (Fast Food), Stress Dan Olahraga Dengan Kejadian Dismenorea Pada Remaja Putri Di Man 2 Lebak Banten. *Bunda Edu-Midwifery Journal (BEMJ), 4*(2), pp. 30–38. doi: 10.54100/bemj.v4i2.53

Rejeki, S. (2019). Gambaran Tingkat Stres Dan Karakteristik Remaja Putri Dengan Kejadian Dismenore Primer. *Jurnal Kebidanan, 8*(1), pp. 50. doi: 10.26714/jk.8.1.2019.50-55

Septiyani, T., & Simamora, S. (2022). Riwayat Keluarga, Aktivitas Fisik dan Pola Makan terhadap Kejadian Dismenorea Primer pada Wanita. *AgriHealth: Journal of Agri-Food, Nutrition and Public Health, 2*(2), pp. 88. doi: 10.20961/agrihealth.v2i2.54327

Sihombing, K. A., Jalaluddin, M., Chalil, A., Akbar, A., & Suryani, D. (2023). Hubungan Tingkat Stres dengan Gangguan Siklus Menstruasi dan Dismenore pada Mahasiswi Fakultas Kedokteran Universitas Muhammadiyah Sumatera Utara selama Masa Pandemi COVID-19. *Jurnal Implementa Husada, 4*(1). doi: 10.30596/jih.v4i1.12711

Suciati. (2022). Hubungan Pola Makan Dengan Dismenorhea Pada Remaja Putri Di Desa Tanjungsari. *Universitas Kusuma Husada Surakarta,* 10(1), pp. 1–52. doi: 10.21608/pshj.2022.250026

Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, Dan R&D. Alfabeta.

Syamsuriyati, Rosdianah, Syarief, S., Handayani, R., Pratiwi, H., & Rismayanti. (2022). Pengaruh Kadar Hemaglobin terhadap Kejadian Dismenore pada Mahasiswi Kebidanan Universitas Megarezky Makassar. *GHIZAI : Jurnal Gizi Dan Keluarga, 1*(2), pp. 2809–3011.

Taqiyatun, T. (2021). Efektivitas abdomnal stretching exercise dan senam dismniorea terhadap penurunan nyeri disminorea primer. *Media Keperawatan: Politeknik Kesehatan Makassar,* 12(1), pp. 44. doi: 10.32382/jmk.v12i1.2068