



The Relationship Between Nutritional Status and The Incidence of Dysmenorrhea in Adolescent Women

Iis^{a,1*}, Ela Rohaeni^{a,2}

^aSekolah Tinggi Ilmu Kesehatan (STIKes) Cirebon Jawa Barat, Indonesia

¹iistehiis88@gmail.com, ²elarohaeni21@gmail.com

Received: 13-08-2022

Accepted: 27-09-2022

Published: 22-09-2022

ABSTRACT

The incidence of dysmenorrhea in the world is substantial; on average more than 50% of women in every country experience menstrual pain. One of the factors that can cause dysmenorrhea is nutritional status. A person's nutritional status depends on nutritional intake and needs. If the nutritional intake and body needs are balanced, it will result in good nutritional status. This study aimed to determine the relationship between nutritional status and the incidence of dysmenorrhea in midwifery students at STIKes Cirebon. The research method is an analytic design using a Cross Sectional approach. The population in this study used a total sampling technique, namely, all 36 Midwifery students. Data was taken using a questionnaire and then analyzed using chi-square with a confidence level of $\alpha = 0.05$. The results showed a relationship between nutritional status and the incidence of dysmenorrhea, where the P value was 0.003. Results P value < 0.05 , meaning there is a significant relationship between nutritional status and the incidence of dysmenorrhea. Based on the study's results, it was found that 28 people (77.8%) had experienced dysmenorrhea and 8 (22.2%). Thus, most respondents experienced the incidence of dysmenorrhea. It is recommended that adolescents pay more attention to their nutritional needs regularly to reduce the incidence of dysmenorrhea during menstruation.

Keywords: teenager, nutritional Status, dysmenorrhea incidence.

*Corresponding Author



INTRODUCTION

Nutritional status is the body's condition from consuming food and using nutrients (Pantaleon, 2019). A person's nutritional status depends on his nutritional intake and needs. A good nutritional status will result if the nutritional intake and body needs are balanced (Forth et al., 2022). The nutritional intake needs of everyone differ from individual to individual depending on gender, activity, body weight, and height.

An assessment of nutritional status based on BMI in the age group 13-15 years shows that the national prevalence of wasting is 11.1%, consisting of 3.3% being skinny and 7.8% being thin (Pantaleon, 2019). In West Java, especially Cirebon Regency, according to the Ministry of Health in 2018, the prevalence of BMI nutritional status for late adolescents 18 to 24 years was 11.19% thin, 58.08% normal, 11.53% fat, and 11.21% obese.

Dysmenorrhea is lower abdominal pain that sometimes extends to the waist, lower back, and thighs (Putinah, 2019). During menstruation, especially during the luteal phase, there will be an increase in nutritional needs. Therefore, female adolescents must maintain good nutritional status by consuming a balanced diet, which is very much needed during menstruation. If this is neglected, the impact will be painful complaints. Cause discomfort during the menstrual cycle (Dewi et al., 2019).

According to (Sulistyorini et al., 2017), the incidence of dysmenorrhea is relatively 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, with the lowest prevalence in Bulgaria (8.8 %) and the highest reaching 94% in Finland. The highest prevalence of

dysmenorrhea is often found in young women, estimated to be between 20% and 90%. Approximately 15% of adolescents are reported to experience severe dysmenorrhea (Savitri et al., 2019).

Dysmenorrhea is substantial worldwide (Manisha & Anuradha, 2021). On average, more than 50% of women in every country experience menstrual pain. In Indonesia, it is estimated that 55% of women of reproductive age are tormented by pain during menstruation. The incidence (prevalence) of menstrual pain ranges from 45-95% among women of reproductive age (Dewi et al., 2019).

One of the factors that can cause dysmenorrhea is nutritional status. Women who are obese or overweight can be a risk factor for dysmenorrhea (Alikamali et al., 2022). Dysmenorrhea is sometimes felt to be disturbing for women who experience it. The degree of pain and the pain level of the disorder is certainly not the same for every woman. Some can still work; some cannot do activities because of the pain (Lail, 2019). In a 2017 study conducted by a female employee, it was found that out of 58 respondents (82.85%) who experienced dysmenorrhea, the majority were underweight (55.17%), and 12 respondents (17.15%) who did not experience dysmenorrhea, the majority were nutritional status. fat. With the study's results showing a P value of $0.015 < 0.05$, it was stated that nutritional status to the incidence of dysmenorrhea was related (Meliasar, 2020).

Government Efforts Since 2000, the Indonesian government has made KRR (Adolescent Reproductive Health) a national program. The KRR (Youth Reproductive Health) program is a service to help adolescents have good reproductive health status by providing information, counseling services, and life skills education (Lail, 2019).

Cirebon College of Health Sciences (STIKes Cirebon) is one of the higher schools in the Cirebon district with various study programs, including the DIII Midwifery Study Program (Hapitria & Ningtias, 2021). In the DIII Midwifery Study Program, all students are women who have an average age of 18 to 24 years and have menstruated, so this is the reason why the authors are interested in conducting research on the Relationship between Nutritional Status and the Incidence of Dysmenorrhea in Midwifery Students at STIKes Cirebon in 2022.

METHOD

Study this using design study analytics with a cross-sectional approach. This research aims to know the Connection Status of nutrition to Incident dysmenorrhea. The population in the study is Student Midwifery in STIKes Cirebon, which amount to 36 students. The sample used is the whole population (Total Sampling). The research tool used is a questionnaire that is distributed via Google Forms. Data analysis using univariate and bivariate.

RESULTS AND DISCUSSION

A. Analysis Univariate

a. Distribution of Respondents

Table 1. Distribution of Respondents

Group Age	F	%
Phase Teenager Beginning (10 – 13 Years)	0	0
Phase Teenager Mid (14 – 17 Years)	1	2.8
Phase Teenager End (18 – 24 Years)	35	97.2
Total	36	100
Heavy Body (BB)	F	%
< 40 kg	2	5.6
40 – 45 kg	12	33.3
> 45 kg	22	61.1

Total	36	100
Tall Body (TB)	F	%
< 145 cm	1	2.8
145 – 150 cm	4	11.1
>150cm	31	86.1
Total	36	100
Scale	F	%
Painful Light	19	52.5
Painful Currently	11	30.6
Painful Heavy	6	16.9
Total	36	100

Based on table 1 one that the percentagedistribution of respondents is as follows:

1. Age

Characteristics of respondents based on age show that most of the respondents are in the age category of 18-24 years (Late Adolescent Phase), namely as many as 35 people (97.2 %).

2. Weight (BB)

Based on the table above, it is shown that according to the body weight (BB), the majority of respondents were > 45 kg, 22 people (61.1 %), and 12 people (33.3%) had 40-45 kg. Thus, most respondents have a body weight (BB)> 45 kg.

3. Height (TB)

Based on the table above, it is shown that in terms of height (TB), the majority of respondents were > 150 cm, namely 31 people (86.1 %).

4. Scale

The characteristics of respondents based on the pain scale showed that most respondents felt mild pain in as many as 19 people (52.5 %) and moderate pain in as many as 11 people (30.6)

b. Status nutrition Respondents

Table 2. Status nutrition Respondents (N = 36)

Status Nutrition	Amount	Percent (%)
Thin	22	61.1
Normal	13	36,1
Fat	1	2,8
Total	36	100

Based on the table in on obtained description, description respondents in terms of nutritional status where the most respondents category Thin there are 22 people (61.1%) temporary there is 13 people respondents (7.15%) have the category nutritional status normal. Only one person (2.8%) had their status nutrition fat. With this majority, the respondent has thin status nutrition.

c. Incident dysmenorrhea on Respondents

Table 3. Incident Dysmenorrhea on Respondents (N = 36)

Dysmenorrhea	Amount	Percent (%)
YES	28	77,8
NO	8	22,2
Total	36	100

Based on the table in on obtained description, that Incident Dysmenorrhea in respondents is more than no experience dysmenorrhea Respondents who experienced Incidentdysmenorrhea

as many as 28 people (77.8 %), and respondents who did not experience dysmenorrhea as many as eight people (22.2%). Thus, the majority of respondent experience dysmenorrhea.

B. Analysis Bivariate

Table 4. Relationship Between Nutritional Status and Incidence of Dysmenorrhea Chi-Square Tests

Incident Dysmenorrhea E	Status Nutrition								<i>P Value E</i>
	Thin		Normal		Fat K		Total		
	F	%	F	%	F	%	F	%	
Happen	21	58.3	6	16.7	1	2.8	28	77.8	0.003
Not Happen	1	2.8	7	19.7	0	0	8	22.2	
Total	22	61.1	13	36.1	1	2.8	36	100	

Based on the table in on obtained description that from 28 respondents (77.8%) who experience Incident dysmenorrhea, there are 1 of the respondents (2.8%) have fat nutritional status, there are six respondents (16.7%) have normal nutritional status, 21 respondents (58.3%) which have nutritional status thin.

Based on the table above, it is obtained that from 8 respondents (22.2%) who did not experience dysmenorrhea, 0 respondents had fat nutritional status, there are seven people (19.7%) who had status normal nutrition, one respondent (2.8%) have nutritional status thin. From the table above, it is known that the *P value* is $0.003 < 0.05$, so stated there is a significant relationship between Status nutrition with Genesis dysmenorrhea.

a. Status nutrition

Based on the analysis of the results obtained, description respondents in Thing Status nutrition were the most in the thin category; there were 22 people (61.1%). At the same time, 13 respondents (7.15%) had normal nutritional status, and only one person (2.8%) had fat nutritional status. Thus, most respondents have a thin nutritional status.

Nutritional status is the state of the body resulting from consuming food and using nutrients. Nutritional status is divided into three, namely malnutrition status, good nutritional status, and overnutrition status. Determining the nutritional status of adolescents can be done in several ways, one of which is by using the Body Mass Index (BMI). A person is said to have underweight nutrition if $BMI \leq 18.5$. Normal if $BMI > 18.5 - 25.0$ and fat if $BMI > 25$ (Rahmadani, 2016).

This measurement is suitable for teenagers because teenagers are still in their infancy. The need to fulfill nutrition in adolescents, especially young women, is related to their future role as prospective mothers (Cahyaningrum & Widyaningsih, 2013). The situation in adolescence determines the condition of a person in adulthood. During adolescence, nutritional and health conditions must be considered because young women mature and give birth to the next generation (Bianchi et al., 2021). The most common nutritional problem in adolescents is a lack of nutritional intake, which results in malnutrition, which is too thin and can cause anemia due to iron deficiency (Indartanti & Kartini, 2014). The nutritional status of midwifery students at STIKes Cirebon is mostly underweight. This causes most midwifery students to experience dysmenorrhea during menstruation.

b. Dysmenorrhea

Based on the table above, it is obtained. It illustrates that the incidence of dysmenorrhea in respondents is more than in those who do not experience dysmenorrhea. Respondents who experienced dysmenorrhea were 28 people (77.8 %), and respondents who did not experience dysmenorrhea were eight people (22.2%).

Dysmenorrhea usually occurs 2 or 3 years after menarche or the first menstruation. Some dysmenorrhea is mild, some are vague, some are severe, and even some women have fainted. Some must go to the doctor because the pain they experience interferes with their activities (Asrinah, 2011 in Mulyani, 2012). The incidence of dysmenorrhea in the world is substantial. On average, more than 50% of women in every country experience dysmenorrhea. In America, the percentage is around 60%, and in Sweden, it is around 72%. Meanwhile, in Indonesia, it is estimated that 55% of productive women are disturbed by dysmenorrhea.

Because most sufferers are women of reproductive age, the result is that dysmenorrhea also causes absence from work and school; as many as 13-51% of women have been absent once, and 5-14% have been absent repeatedly (Anurogo, 2008 Yuniarti, Rejo, & Handayani, 2012). Research in the United States states that dysmenorrhea is experienced by 30-50% of women of reproductive age, and 10-15% of them lose job opportunities and interfere with learning activities at school and family life (Rompas & Karundeng, 2014).

Thus, most of the DIII midwifery study program students at STIKes Cirebon experienced dysmenorrhea, namely 28 respondents out of a total of 36 respondents.

c. Relationship between Nutritional Status and Dysmenorrhea

Based on the results of the analysis, it was shown that out of 28 respondents (77.8%) who experienced dysmenorrhea, one respondent (2.8%) had an obese nutritional status, six respondents (16.7%) had normal nutritional status, 21 respondents (58.3%) had a thin nutritional status.

For some women, menstruation can make them feel anxious because it is accompanied by pain when menstruation arrives (Suschinsky & Lalumière, 2014). This condition is known as menstrual pain or dysmenorrhea, which is menstrual pain that forces women to rest or results in decreased performance and reduced daily activities (in fact, sometimes, it can make you weak and helpless) (Dewi et al., 2019). Almost all women must have felt menstrual pain (dysmenorrhea) with various levels, ranging from just aching pain in the pelvis from the inside to excruciating pain (Manisha & Anuradha, 2021). Generally, the pain usually felt in the lower abdomen occurs on the first and second days of menstruation. The pain will decrease after quite a lot of blood comes out (Dewi et al., 2019).

Alternatively, the limited nutritional status will not only affect the growth and function of body organs. However, it will also disrupt reproductive function (Tingubun, 2017). This will impact menstrual disorders but improve if the nutritional intake is good. In young women, it is necessary to maintain good nutritional status by consuming a balanced diet because it is needed during menstruation. During the luteal phase of menstruation, there will be an increase in nutritional needs. Moreover, if this is ignored, complaints will cause discomfort during the menstrual cycle (Anwar & Rosdiana, 2019).

Based on the results of the analysis, it was shown that out of 8 respondents (22.2%) who did not experience dysmenorrhea, 0 respondents had obese nutritional status, seven people (19.7%) had normal nutritional status, one respondent (2.8 %) have a thin nutritional status. Meanwhile, those who experienced the most incidence of dysmenorrhea were 21 respondents (58.3 %) with thin nutritional status.

Based on the results of the analysis, it is known that the *P value* is $0.003 < 0.05$, so it is stated that there is a significant relationship between nutritional status and the incidence of dysmenorrhea.

CONCLUSION

Characteristics of respondents based on age show that some respondents are in the Late Adolescent Phase category (18 -24 years). For body weight, it shows that most of the respondents weigh > 45 kg. For height, many respondents have a height > 150 cm. The pain scale most are on the mild pain scale. Based on the study's results, 28 respondents (77.8%) experienced dysmenorrhea, and eight (22.2%) did not experience dysmenorrhea. Thus, most respondents experienced dysmenorrhea. Based on the study results, it was obtained that of the 28 respondents (77.8 %) who experienced dysmenorrhea, most of the nutritional status was thin, as many as 21 people (58.3%). The results of this study showed a *P value* of $0.003 < 0.05$, so it was stated that there was a significant relationship between nutritional status and the incidence of dysmenorrhea.

REFERENCE

- Alikamali, M., Mohammad-Alizadeh-Charandabi, S., Maghalian, M., & Mirghafourvand, M. (2022). The effects of vitamin E on the intensity of primary dysmenorrhea: A systematic review and meta-analysis. *Clinical Nutrition ESPEN*, 52, 50–59. <https://doi.org/https://doi.org/10.1016/j.clnesp.2022.10.001> Scopus
- Anwar, C., & Rosdiana, E. (2019). Hubungan Indeks Masa Tubuh dan Usia Menarche dengan Kejadian Disminore pada Remaja Putri di SMA Negeri 1 Samudera tahun 2015. *Journal of Healthcare Technology and Medicine*, 2(2), 144–153. Google Scholar
- Bianchi, V. E., Bresciani, E., Meanti, R., Rizzi, L., Omeljaniuk, R. J., & Torsello, A. (2021). The role of androgens in women's health and wellbeing. *Pharmacological Research*, 171, 105758. <https://doi.org/https://doi.org/10.1016/j.phrs.2021.105758> Scopus
- Cahyaningrum, H. D., & Widyaningsih, E. N. (2013). *Hubungan antara body image dengan status gizi pada remaja putri kelas XI IPS di SMA Batik 1 Surakarta*. Universitas Muhammadiyah Surakarta. Google Scholar
- Dewi, N. P. S. R., Citrawathi, D. M., & Savitri, N. P. W. (2019). Status Gizi dan Usia Saat Menarche Berkorelasi terhadap Kejadian Disminore Siswi SMP. *Jurnal Penelitian Dan Pengembangan Sains Dan Humaniora*, 3(2), 99–108. Google Scholar
- Forh, G., Apprey, C., & Frimpomaa Agyapong, N. A. (2022). Nutritional knowledge and practices of mothers/caregivers and its impact on the nutritional status of children 6–59 months in Sefwi Wiawso Municipality, Western-North Region, Ghana. *Heliyon*, 8(12), e12330. <https://doi.org/https://doi.org/10.1016/j.heliyon.2022.e12330> Scopus
- Hapitria, P., & Ningtias, G. (2021). Gambaran Pengelolaan Pembelajaran Berbasis Electronic Learning Selama Pandemi Covid-19 Pada Program Studi Diii Kebidanan Cirebon. *Media Informasi*, 17(1), 59–71. Google Scholar
- Indartanti, D., & Kartini, A. (2014). Hubungan status gizi dengan kejadian anemia pada remaja putri. *Journal of Nutrition College*, 3(2), 310–316. Google Scholar
- Lail, N. H. (2019). Hubungan status gizi, usia menarche dengan disminore pada remaja putri di smk k tahun 2017. *Jurnal Ilmiah Kebidanan Indonesia*, 9(02), 88–95. Google Scholar
- Manisha, U., & Anuradha, L. (2021). Effect of high frequency transcutaneous electrical nerve stimulation at root menstrual pain in primary dysmenorrhea. *Journal of Bodywork and Movement Therapies*, 26, 108–112. <https://doi.org/https://doi.org/10.1016/j.jbmt.2020.12.025> Scopus
- Meliasar, D. (2020). *Hubungan Pola Asuh Orang Tua Dengan Kejadian Stunting Pada Balita Di Paud Al Fitrah Kecamatan Sei Rampahkabupaten Serdang Bedagai*. Google Scholar
- Pantaleon, M. G. (2019). Hubungan pengetahuan gizi dan kebiasaan makan dengan status gizi remaja putri di SMA Negeri II Kota Kupang. *CHMK Health Journal*, 3(3), 69–76. Google Scholar
- Putinah, P. (2019). Penatalaksanaan Kejadian Disminore Berdasarkan Pengetahuan Dan Sikap Mahasiswi. *Babul Ilmi Jurnal Ilmiah Multi Science Kesehatan*, 11(1). Google Scholar
- Savitri, N. P. W., Citrawathi, D. M., & Dewi, N. (2019). Hubungan status gizi dan usia menarche dengan kejadian disminore siswi SMP Negeri 2 Sawan. *Jurnal Pendidikan Biologi Undiksha*, 6(2), 93–102. Google Scholar
- Sulistiyorini, S., Monica, S., & Ningsih, S. S. (2017). Faktor-faktor yang mempengaruhi kejadian disminore primer pada siswi SMA PGRI 2 Palembang. *Masker Medika*, 5(1), 223–231. Google

Scholar

- Suschinsky, K. D., & Lalumière, M. L. (2014). The Relationship Between Sexual Concordance and Interoception in Anxious and Nonanxious Women. *The Journal of Sexual Medicine*, 11(4), 942–955. <https://doi.org/https://doi.org/10.1111/jsm.12250> Scopus
- Tingubun, S. (2017). Hubungan antara Status Gizi dan Siklus Menstruasi pada Remaja Putri. *Jurnal Ilmu Kebidanan*, 3(2), 99–103. Google Scholar