



FACTORS RELATED TO AGE OF MENARCHE IN ADOLESCENT WOMEN

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ABSTRACT

Backgrounds: *Menarche* is the first bleeding from the uterus that occurs in a woman. *Menarche* is caused by several factors including nutritional status, ethnicity, genetics, social, economic, etc.

Objective: This study aims to determine the relationship between diet, food intake, nutritional status and exposure to social media with the age of menarche in adolescent girls at SMPN 1 Kolaka in 2021.

Method: The type of research used is a cross sectional research design and the sample taken is 136 respondents and the sample is taken by stratified proportional random sampling. Statistical analysis used in this study is the chi square test. The research results are said to be related if the results of the statistical test p value <0.05 .

Result: The results showed that on average the respondents had an early menarche age of 55.1%. Most of the respondents have a good diet and intake of food as much as 86.8%. As many as 80.9% of respondents have normal nutritional status and as many as 72.1% of respondents have been exposed to social media.

Conclusion: Based on the results of the study, it can be concluded that the variables between diet, food intake, nutritional status and exposure to social media with age at menarche of respondents have a significant relationship.

INTRODUCTION

Menarche is the first bleeding from the uterus that occurs in a woman. This phase of the arrival of menstruation is an event where adolescents are biologically ready to carry out their female functions (Kartono, 2008 in Derina, 2011). According to Wiknjastro

(2008), the age of teenage girls at the time of their first menstruation (*menarche*) varies between the ages of 11-13 years. However, it is also possible that adolescents under 11 years of age have experienced menstruation (BKKBN, 2010). *Menarche* occurs in the middle of puberty, which is the transition

period from childhood to adulthood. After puberty, women enter a period of reproduction, which is the period when they can produce offspring (Wiknjosastro, 2008).

In the last 100 years the age of *menarche* has shifted to a younger age. Semmel Weiss states that 100 years ago Vienna girls at the time of *menarche* ranged from 15-19 years. Now the age of adolescent girls at the time of *menarche* varies widely, which is between 10-16 years but the average is 12.5 years. According to Brown, the decline in the age of *menarche* is now due to improved nutritional and general health conditions, and reduced chronic diseases (Atika, 2017).

The results of the 2010 Basic Health Research show that the average age of *menarche* in Indonesia is 13 years with the youngest age of *menarche* under 9 years and the oldest being 20 years (Badan Research and Development of Health, 2010). There is a relationship between social media exposure and the speed of adolescent puberty, which indirectly causes the age of *menarche* for adolescent girls. The survey explains that most of the available media contains information about sex and these teens often see or listen to social media in their own room.

Age to reach the phase of *menarche* is influenced by many factors including nutritional, ethnic, genetic, social, economic factors, and others. Nutritional factors affect sexual maturity. In adolescents who received *menarche*, they tended to be heavier and taller

at *menarche* compared to those who had not menstruated at the same age. Generally, adolescents who experience early sexual maturity will have a higher body mass index (Atika, 2017).

Sudikno's research (2019) among Indonesian women and related factors found that among adolescents 10-19 years of age, the overall proportion of *menarche* was 78.6 percent, ranging from 42.8 percent, 96.2 percent, 99.6 percent at the ages of 12, 15, and 18 years, respectively. The overall average age at *menarche* was 12.96 years. The age of *menarche* is significantly younger in urban areas than in rural areas. BMI was significantly lower among adolescents who had not experienced *menarche* compared to adolescents who had experienced *menarche*. The age of *menarche* is younger in urban areas, the socioeconomic status is higher, and varies among the seven regions. Nutritional status is a significant factor associated with age at *menarche*. There is a downward trend in the age of *menarche* in women in Indonesia.

The age *menarche* generally occurs at the age of 12-15 years. At this age the level of education taken by adolescents in general is junior high school (Soetjaningsih, 2007). Therefore, the research was conducted on students of SMPN 1 Kolaka in 2021.

METHODS

The type of research used was quantitative research with descriptive method using a *cross sectional study approach* which

aims to study the relationship between disease and exposure by observing the status of exposure and disease at a certain time or period. . The population in this study were all seventh grade students at SMPN 1 Kolaka with a total of 206 students with a sample of 136 students. Sampling was done by using *stratified proportional random sampling technique*. The sample size in this study was determined using the Slovin formula (Supardi, 2016).

The method of data collection: Primary data obtained from the results of filling out the questionnaire answered by each respondent, the *recall* and the frequency of eating filled in by each respondent and the results of the anthropometric assessment based on the respondent's BMI/U. Secondary data were obtained from agencies related to the research.

Data analysis was carried out in two stages, namely univariate analysis and bivariate analysis. Univariate analysis was used to describe the characteristics of the independent and dependent variables. The entire data in the questionnaire is processed

and presented in the form of a frequency distribution table. Bivariate analysis was used to see the relationship between the independent variable and the dependent variable using the *chi square*.statistical test *chi square* , the p value will be obtained, which in this study used a significance level of 0.05. Research between two variables is said to be meaningful if it has a p value 0.05 which means Ho is rejected and Ha is accepted and is said to be meaningless if it has a p value > 0.05 which means Ho is accepted and Ha is rejected.

RESULT

The number of samples in this study were 136 female students with the frequency distribution of respondents based on age group with the highest number being in the age group of 13 years as many as 121 respondents (89.0%) and the lowest being the age of 14 years as many as 7 respondents (5.1%). Based on age at *menarche* , the highest number was at the age of 11 years as many as 75 respondents (55.1%) and the lowest was at the age of 13 years as many as 16 respondents (11.8%).

Table 1
Frequency distribution of respondents based on eating patterns by age of menarche

Dietary pattern	Age of menarche				Total	
	Fast		Normal		N	%
	n	%	n	%		
Good	73	53.7	45	33.1	118	86.8
Poor	2	1.5	16	11.7	18	13.2
Total	75	55.2	61	44.8	136	100.

Table 2
Distribution frequency of respondents based on food intake by age of menarche Food

Intake	Age of menarche				Total	
	Fast		Normal		N	%
	n	%	n	%		
Enough	73	53.7	45	33.1	118	86.8
Less good	2	1.5	16	11.7	18	13.2
Total	75	55.2	61	44.8	136	100.0

Table 3
Distribution of respondents' frequency by status nutrition with age at menarche

Nutritional status	Age at menarche				Total	
	Fast		Normal		N	%
	n	%	n	%		
Very thin	0	0.0	4	2.9	4	2.9
Thin	2	1.5	12	8.8	14	10.3
Normal	65	47.8	45	33.1	110	80.9
Fat	8	5.9	0	0.0	8	5.9
Total	75	55.2	62	44.8	136	100.0

Table 4
Frequency distribution of respondents based on media exposure by age at menarche

Media exposure	Age at menarche				Total		p-value
	Fast		Normal		N	%	
	n	%	n	%			
Exposed	75	55.1	23	17.0	98	72.1	0.000
Not exposed	0	0.0	38	27.9	38	27.9	
Total	75	55.1	63	44.9	136	100.0	

DISCUSSION

1. Relationship between diet and age at menarche

The results showed that respondents who had a good diet and had a fast and normal age at *menarche* were 73 respondents (53.7%) and 45 respondents, respectively. (33.1%). From the results of the interview, it was found that most of the respondents consumed food with balanced nutrition and the frequency of eating > 3

times a day. This is because respondents consume various types of food, meaning that the food consumed is of various kinds, both animal and vegetable, both from sources of carbohydrates, proteins, fats, vitamins and minerals because each type or group of food has advantages or disadvantages of certain nutrients or nutrients so that by consuming food that are diverse, the nutrients or nutrients from various types of food cover each other

according to the needs of our bodies. If the nutritional status is good, it can affect the reproductive age and accelerate the age of *menarche*. The results showed that there was a significant relationship between eating patterns and the age at which *menarche*. Based on the *chi square* obtained $p(0.000)$ or $p < 0.05$. In addition, it was also found that 2 respondents (1.5%) with poor eating patterns had early *menarche*. This may be due to the low level of vitamin D in the respondent's body, thus causing rapid *menarche*.

2. Relationship between food intake and age of menarche

. The results showed that there were 73 respondents (53.7%) with adequate food intake who had early *menarche* and 45 respondents with *menarche* normal. Energy and nutritional needs in adolescents are influenced by reproductive age, activity level and nutritional status. Nutrition affects sexual maturity in girls who got their first menstruation earlier, they tend to be heavier and taller at the time of the first menstruation compared to those who have not menstruated at the same age. In general, those who mature early will have a higher body mass index (BMI) and those who mature later have a lower BMI at the same age. The results of this study obtained that the *chi square* $p(0.000)$ or $p < 0.05$ showed that there was a

significant relationship between food intake and age at *menarche*.

3. The relationship between nutritional status and age of menarche

In this study, it was found that of 110 respondents (80.9%) with normal nutritional status, 65 respondents (47.8%) had early *menarche* and 45 respondents (33.1%) had *menarche* normal. Adolescents with high nutritional status will experience *menarche* at an earlier age than those with low nutritional status, because the difference in the number of adipose glands they have produces different amounts of leptin secretion. Those who have a high nutritional status or above normal will get *menarche* at an age that is too early, while those who have a low or below normal nutritional status experience *menarche* at an age that is too late. In addition, there are also 8 respondents (5.9%) with obese nutritional status who have an early age of *menarche*. The more fat in a girl's body allows the greater aromatization of androgens to estrogen, which in turn triggers the onset of *menarche* early. However, in this study, it was found that 2 respondents (1.5%) with underweight nutritional status experienced rapid age of *menarche*. This may be due to the low level of vitamin D in the respondent's body, which causes rapid onset and *menarche* but no causal relationship has been found. The results of

this study indicate that there is a significant relationship between nutritional status and age at *menarche*. Based on the *chi square* obtained p value 0.000 ($p < 0.005$).

4. The relationship between media exposure and age at menarche

This study found that out of 98 respondents (72.1%) who were exposed to adult mass media, there were 75 respondents (55.1%) who had early *menarche* and 23 respondents (17.0%) who age of *menarche* a normal. And 38 respondents (27.9%) who were not exposed to the media had *menarche* a normal. In other words, respondents who were exposed to the media experienced *menarche* than respondents who were not exposed to the media. Based on the *chi square*, it was found that the p value was 0.000 ($p < 0.05$), which means that there is a significant relationship between media exposure and the *menarche* respondent. In

other words, the incidence of *menarche* was more in respondents who were exposed to the media. With frequent contact with sources of information such as watching things that lead to sexuality, reading pornographic books and others, they tend to get more psychic stimulation so that it has an impact on shifting values, especially socio-cultural norms and things that were previously considered taboo are now considered taboo.

CONCLUSION

The results of the research that has been done, it can be concluded that there is a relationship between diet, food intake, nutritional status and media exposure with the age of *menarche* in adolescent girls at SMPN 1 Kolaka in 2021.

SUGGESTION

It is hoped that other studies will discuss more in-depth study of factors related to the age of *menarche*, such as media exposure.

REFERENCES

- Aisyah, Sitti. (2003). Hubungan Status Gizi, Stimulan Psikis dengan Status Menarche Siswa SD Al-Azhar SYIFA Budi Kemang, Jakarta Selatan. Skripsi. Fakultas Kesehatan Masyarakat, Universitas Indonesia, Depok.
- Arisman. (2004). Gizi dalam Daur Kehidupan: Buku Ajar Ilmu Gizi. Penerbit: Buku Kedokteran EGC: Jakarta.
- Athur C Guyton. (1994). Buku Ajar Fisiologi Kedokteran. Penerbit: EGC Buku Kedokteran. Jakarta.
- Azzam, Ummu. (2012). La Tahzan Untuk Wanita Haid. Penerbit: Qultum Media. Jakarta Selatan.
- Badan Penelitian dan Pengembangan Kesehatan. (2010). Riset Kesehatan Dasar 2010. Jakarta: Kementerian Kesehatan RI.
- BKKBN. (2010). Profil Hasil Pendataan Keluarga Tahun 2009. Jakarta: Direktorat Pelaporan dan Statistik.

- Brown, Jane D., Ph.D. (2005). Mass Media as A Sexual Super Peer for Early maturing Girls. *Journal of A Adolescent Health* Vol 36:420-427.
- Damayanti. (2012). Pengaruh Gizi Terhadap Usia Menarche Di SDN Banyuajuh 4 Kamal – Madura Kelas V Dan VI. Skripsi. FK Universitas Wijaya Surabaya.
- Departemen Kesehatan RI. (1998). Bekalku Membina Keluarga Sadar Gizi. Ditjen Kesehatan Masyarakat. Direktorat Gizi Masyarakat.
- Departemen Kesehatan RI. (2002). Pedoman Umum Gizi Seimbang (Panduan untuk petugas). Jakarta. <http://www.BeritaIptek.com/Bandung>. Remaja Rosdakarya.
- Deswita. 2006. Psikologi Perkembangan. Bandung. Remaja Rosdakarya.
- Fitrah Umi Mutasya. (2016). Faktor-faktor yang berhubungan dengan usia menarche Siswi SMP Adabiah. (<http://jurnal.fk.unand.ac.id>)
- Ghozali, Imam. (2002). Aplikasi Analisis Multi Variat dengan Program SPSS. Badan Penerbit Universitas Diponegoro. Semarang.
- Kartasapoetra G, Marsetyo MH. (2005). Ilmu Gizi – Korelasi Gizi, Kesehatan, dan Produktivitas Kerja. Rineka Cipta. Jakarta.
- Kartono, Kartini. (1992). Psikologi Wanita. Mengenal Gadis Remaja dan Wanita Dewasa. Penerbit: Mandar Maju. Jakarta.
- Khalil, A. A. (2004). Anakku Mari Belajar tentang Seks. Penerbit: Arab Scientific Publisher. Jakarta.
- Lismawati. (2019). Pelaku Remaja Putri Dalam Perawatan Kesehatan Alat Reproduksi Pada Saat Menstruasi Di SMP Swasta Al- Hikmah Wilayah Marihat Bandar Kabupaten Simalungun. (<http://jurnal.stikes-sitihajar.ac.id/>).
- Notoatmodjo, Soekidjo. (2003). Metodologi Penelitian Kesehatan. Jakarta: PT Rineka Cipta.
- Pardede, Nancy. (2002). Tumbuh Kembang Anak dan Remaja. Jakarta : Sagung Set.
- Prawirohardjo, Sarwono. (2006). Ilmu Kebidanan. Yayasan Bina Pustaka Sarwono Prawirohardjo : Jakarta.
- Rahayu, Atika. (2017). Buku Ajar Kesehatan Reproduksi Remaja dan Lansia. (<http://kesmas.ulm.ac/id>). Online diakses pada tanggal 14 April 2021
- Santrock, John W. (2003). Adolescence Perkembangan Remaja. Jakarta: Erlangga.
- Sri Rumini dan Siti Sundari. (2004). Perkembangan Anak dan Remaja. Jakarta: PT. Asdi Mahasaty.
- Soetjiningsih. (2007). Tumbuh Kembang Remaja dan Permasalahannya. Jakarta: Sagung Seto.
- Sunarto dan Agung Hartono. (2002). Perkembangan Peserta Didik. Jakarta: PT Rineka Cipta.
- Surahman, Rahmat dan Supardi. (2016). Metodologi Penelitian. Jakarta Selatan: e-book tidak dipublikasikan