

The Psychological Response to Menarche in Elementary School Students is Influenced by Age, Perception, Knowledge, and Information Sources

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ABSTRACT

Background: *Menarche* causes anxiety in some teenagers, because they consider menstruation to be a disease and dirty blood.

Purpose: The aim of the research is to determine the factors related to the psychological response during menarche at Khadijah Elementary School, Surabaya.

Methods: This research is an analytical observational study with a cross-sectional approach. It was conducted at SD Khadijah Surabaya on May 3, 2024. The sample consisted of 47 female students who had experienced menarche. The sampling technique used was stratified random sampling. The research instruments included questionnaires on age at menarche, sources of information, knowledge and perceptions about menstruation and menarche, as well as psychological responses during menarche. The data were analyzed using the Chi-square test with a significance level of $\alpha = 0.05$. Multivariate analysis was not performed to avoid overfitting due to the small sample size.

Results: The results of the Chi-square test showed significant associations between psychological responses at menarche and the following variables: age at menarche ($p = 0.001$), knowledge ($p = 0.000$), perception ($p = 0.000$), and source of information ($p = 0.035$).

Conclusion: Based on the results of the research and discussion that have been described, it can be concluded that there is a relationship between the age of menarche, knowledge, perception and sources of information with the psychological response during menarche at Khadijah Elementary School Surabaya.

Keywords: age of menarche, information sources, knowledge, perception, psychological response

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BACKGROUND

Menarche is an important biological event that marks the onset of reproductive function in girls. This event generally occurs during the transition from childhood to early adolescence, a period characterized by physical, emotional, and psychosocial changes. At the elementary school age, children's ability to understand bodily changes and manage emotional responses is still limited; therefore, menarche often becomes an experience that generates psychological stress. Psychological responses to menarche may manifest as positive reactions, such as acceptance and understanding of bodily changes, or as negative reactions, including fear, anxiety, embarrassment, confusion, or stress (Afiyah, 2016).

Psychological responses to menarche do not arise suddenly but are influenced by various factors. Age at menarche is one important factor, as menarche occurring at an earlier age is often experienced when children are not yet mentally and emotionally prepared. In addition to age, the level of knowledge about menstruation plays a role in shaping cognitive understanding of the bodily changes experienced. Limited knowledge may lead to misconceptions and intensify negative emotions. Children's perceptions of menarche whether it is viewed as a natural biological process or as something frightening and embarrassing also directly influence the psychological responses that emerge. Sources of information about menstruation are another important factor in shaping children's psychological readiness. Information obtained from parents, teachers, health professionals, or the media can influence how children understand and interpret the experience of menarche. Accurate, age-appropriate information can help children develop positive perceptions and reduce anxiety, whereas limited or inaccurate information may reinforce negative perceptions and increase undesirable psychological responses (Afiyah, 2016).

Data from the Indonesian Ministry of Health indicate that the average age of menarche in Indonesia is 12.4 years, with some girls experiencing menarche between the ages of 9 and 12 years. The data also report that approximately 30.3% of girls experience menarche at the age of 11–12 years. In East Java, about 25.3% of adolescent girls experience menarche at the age of 11–12 years. The high proportion of menarche occurring at elementary school age highlights the importance of early psychological preparedness (Dwi Anggraini, Hikmawati, & Wayuningsih, 2023).

Previous studies have demonstrated variations in psychological responses to menarche. (Afiyah, 2016) reported that among 50 respondents, 76% exhibited negative psychological responses during menarche, primarily because it was their first experience and due to limited knowledge. In contrast, a study conducted by (Rina Rahmayanti et al., 2023) found that among 95 respondents, 67.4% demonstrated positive psychological responses.

Based on this background, the present study aims to analyze psychological responses to menarche among elementary school students and the factors influencing them, including age, perception, knowledge, and sources of information. The findings of this study are expected to serve as a basis for developing age-appropriate reproductive health education and for supporting the psychological preparedness of girls in facing menarche.

OBJECTIVE

This research aims to determine "Factors Associated with Psychological Responses During Menarche at Khadijah Elementary School Surabaya", the factors that will be studied are the age of menarche, knowledge, perception, and sources of information.

METHODS

This study employed an analytical observational design with a cross-sectional approach to examine the association between age at menarche, knowledge, perception, and sources of information with psychological responses to menarche among elementary school students. The study was conducted at SD Khadijah Surabaya on May 3, 2024. The population consisted of 53 female students who had experienced menarche, of whom 47 were selected using stratified random sampling. Each grade level served as a stratum to ensure proportional representation. The number of students who had experienced menarche in each grade was first identified, after which the sample size for each stratum was determined proportionally, and participants were selected randomly within each stratum (Hidayat, 2018).

Data were collected using an adapted questionnaire derived from previously published instruments. The adaptation involved translation into Indonesian and contextual adjustment for elementary school students. The questionnaire was tested for validity and reliability prior to data collection. Validity was assessed using the Pearson product-moment correlation, and reliability was evaluated using Cronbach's alpha, with values ≥ 0.70 considered acceptable. Age at menarche was categorized as early (<11 years), normal (12–14 years), or late (≥ 14 years). Knowledge regarding menstruation and menarche was classified as poor (0–49%), moderate (50%), or good (51–100%) based on questionnaire scores. Perception toward menarche was categorized as positive ($\geq 50\%$) or negative (<50%).

Data analysis included univariate and bivariate analyses. Univariate analysis described variable distributions, while bivariate analysis used the Chi-square test with a significance level of $\alpha = 0.05$ to examine associations. When more than 20% of expected cell counts were below 5, Fisher's Exact test was applied. Multivariate analysis was not performed to avoid overfitting due to the small sample size. Potential confounding variables, such as family support, socioeconomic status, and parental education, were not measured as they were beyond the scope of this study. Ethical approval was obtained from the Health Research Ethics Committee of Nahdlatul Ulama University Surabaya (No. 0190/EC/KEPK/UNUSA/2024). Participation was voluntary, and respondent confidentiality was maintained.

RESULTS

Menarche age, Knowledge, perception, information sources, psychological responses

Table 1. Frequency Distribution Menarche age, Knowledge, perception, information sources, psychological responses at Khadijah Elementary School, Surabaya in 2024

Characteristics	f	%
Menarche Age		
a. Menarche early	30	63.8
b. Menarche normal	17	36.2
c. Menarche late	0	0.0
Knowledge		
a. Not enough	10	21.3
b. Enough	15	31.9
c. Good	22	46.8
Perception		
a. Positive	23	48.9
b. Negative	24	51.1
Information sources		

a. Print media	2	4.3
b. Electronic media	22	46.8
c. Non-electronic media	23	48.9
Psychological responses		
a. Positive	18	38.3
b. Negative	29	61.7

Based on table 1, it shows that of the 47 respondents studied, the majority (63.8%) experienced early menarche, almost half (46.8%) had good knowledge, the majority (51.1%) had negative perceptions, almost half (48.9%) received information sources through non-electronic media, and the majority (61.7%) had a negative psychological response.

Relationship Between Age of Menarche and Psychological Response During Menarche at Khadijah Elementary School

Table 2. Cross Tabulation of the Relationship Between Age of Menarche and Psychological Response During Menarche at Khadijah Elementary School, Surabaya, 2024

Menarche Age	Psychological Response				Total		<i>p value</i>
	Positive		Negative		f	%	
	f	%	f	%			
Menarche early	6	20.0	24	80.0	30	100.0	0.001
Menarche normal	12	70.6	5	29.4	17	100.0	
Menarche late	0	0.0	0	0.0	0	0.0	
Total	18	38.3	29	61.7	47	100.0	

Based on table 2, it shows that respondents who experienced early menarche (80.0%) almost all had a negative psychological response, while almost all respondents who experienced normal menarche (70.6%) had a positive psychological response. The results of the Chi Square statistical test showed a probability value (*p value*) = 0.001, so H_0 was rejected, meaning there was a relationship between the age of menarche and the psychological response during menarche at SD Khadijah Surabaya.

Relationship Between Knowledge and Psychological Responses During Menarche at Khadijah Elementary School

Table 3. Cross Tabulation of the Relationship Between Knowledge and Psychological Responses During Menarche at Khadijah Elementary School, Surabaya, 2024

Knowledge	Psychological Response				Total		<i>p value</i>
	Positive		Negative		f	%	
	f	%	f	%			
Not enough	0	0.0	10	100.0	10	100.0	0,000
Enough	2	13.3	13	86.7	15	100.0	
Good	16	72.7	6	27.3	22	100.0	
Total	18	38.3	29	61.7	47	100.0	

Based on table 3, it shows that a small number of respondents who had insufficient knowledge had a negative psychological response, respondents who had insufficient knowledge had a negative psychological response, respondents who had sufficient knowledge almost all (86.7%) had a negative psychological response. negative psychology, meanwhile, almost all respondents who had good knowledge (72.7%) had positive psychological responses. The results of the Chi Square statistical test showed a probability value (*p value*) =

0.000, so H_0 was rejected, meaning there was a relationship between knowledge and psychological response during menarche at Khadijah Elementary School, Surabaya.

Relationship Between Perceptions and Psychological Responses During Menarche at Khadijah Elementary School

Table 4. Cross Tabulation of the Relationship Between Perceptions and Psychological Responses During Menarche at Khadijah Elementary School, Surabaya, 2024

Perception	Psychological Response				Total		<i>p value</i>
	Positive		Negative		f	%	
	f	%	f	%			
Positive	16	69.6	7	30.4	23	100.0	0,000
Negative	2	8.3	22	91.7	24	100.0	
Total	18	38.3	29	61.7	47	100.0	

Based on table 4, it shows that most respondents who had positive perceptions (69.6%) had positive psychological responses, while almost all respondents who had negative perceptions (91.7%) had negative psychological responses. The results of the Chi Square statistical test showed a probability value (*p value*) = 0.000, so H_0 was rejected, meaning there was a relationship between perception and psychological response during menarche at Khadijah Elementary School, Surabaya.

Relationship Between Information Sources and Psychological Responses During Menarche at Khadijah Elementary School

Table 5. Cross Tabulation of the Relationship Between Information Sources and Psychological Responses During Menarche at Khadijah Elementary School, Surabaya, 2024

Resources	Psychological Response				Total		<i>p value</i>
	Positive		Negative				
	f	%	f	%	f	%	
Print media	0	0.0	2	100.0	2	100.0	0.035
Electronic media	5	22.7	17	77.3	22	100.0	
Non-electronic media	13	56.5	10	43.5	23	100.0	
Total	18	38.3	29	61.7	47	100.0	

Based on table 5, it shows that all respondents who received information sources through print media (100.0%) had negative psychological responses, almost all respondents who received information sources through electronic media (77.3%) had negative psychological responses. Meanwhile, almost half of respondents who received information sources through non-electronic media (56.5%) had a positive psychological response. The results of the Chi Square statistical test showed a probability value (*p value*) = 0.035, so H_0 was rejected, meaning there was a relationship between the source of information and the current psychological response menarche at Khadijah Elementary School Surabaya.

DISCUSSION

The findings of this study indicate that age at menarche, level of knowledge, perception, and sources of information are associated with the psychological responses of elementary school girls to menarche. These findings reinforce the view that menarche is not merely a biological event but also a psychological experience influenced by individual readiness and the surrounding social context (Aulia & Seniwati, 2021; Fadhlil & Rofiani,

2021). Age at menarche plays an important role in shaping psychological responses. Girls who experienced early menarche tended to exhibit less positive psychological responses, such as fear, anxiety, and embarrassment. This finding is consistent with the psychosocial acceleration theory, which suggests that accelerated biological maturation, including early menarche, is often not accompanied by adequate psychological readiness, thereby increasing emotional vulnerability (Mishra et al., 2012). This result is also in line with previous studies reporting an association between early menarche and negative emotional responses among adolescent girls (Alam et al., 2021; Afiyah, 2016). However, this study also found that not all girls who experienced early menarche exhibited negative psychological responses. Some respondents demonstrated positive responses, suggesting the presence of protective factors such as family support and adequate access to information. This finding indicates that age at menarche is not the sole determinant of psychological response but interacts with cognitive and social factors (Gultom et al., 2020).

Level of knowledge was found to be associated with psychological responses to menarche. Girls with good knowledge tended to demonstrate more positive psychological responses, including acceptance and preparedness for bodily changes. This finding supports previous studies indicating that adequate understanding of menstruation helps adolescents perceive menarche as a normal biological process (Rahmayanti et al., 2023; Mena Deade., 2022; Ninar et al., 2024). According to (Notoatmodjo, 2014), higher levels of knowledge enable individuals to respond to health-related events in a more rational manner. Nevertheless, some findings were not entirely consistent with expectations. Several girls with good knowledge still exhibited negative psychological responses. This suggests that cognitive knowledge alone may not be sufficient to ensure positive emotional responses. Experiential factors, such as menstrual pain or difficulties in managing menstrual hygiene, may contribute to negative psychological reactions despite adequate knowledge.

Perception toward menarche was also significantly associated with psychological responses. Girls with positive perceptions tended to show more adaptive responses, whereas negative perceptions were often linked to anxiety and fear. Such perceptions are shaped by personal experiences, cultural values, and information received from the surrounding environment (Suprpto Arifin et al., 2017; Sulistyaningsih & Sariyani, 2019). These findings highlight that perception is socially constructed and not solely determined by knowledge level.

Sources of information play an essential role in shaping knowledge and perception. Information obtained from parents, teachers, and health professionals tends to have a more positive impact because it is often accompanied by explanation and emotional support. Previous research has shown that most girls obtain information from non-electronic media, which allows for two-way communication (Pangarsi Dyah Kusuma Wardani & Nurulicha, 2019). However, this study also found that the availability of information sources does not necessarily guarantee positive psychological responses if the information is limited, delayed, or delivered without emotional support.

Several findings in this study contradicted initial assumptions. Not all girls with normal or late menarche demonstrated positive psychological responses. This indicates that psychological readiness is not solely determined by biological age but is also influenced by social situations and experiences at the time of menarche. For example, feelings of embarrassment when menstruation occurred at school or during religious activities could trigger negative psychological responses, regardless of age at menarche or level of knowledge. Overall, the findings suggest that psychological responses to menarche result from a complex interaction between biological, cognitive, and social factors. Therefore,

efforts to promote positive psychological responses among adolescent girls should not focus solely on increasing knowledge but also on fostering positive perceptions and strengthening the role of trusted information sources and environmental support (Aulia & Seniwati, 2021; Fadhli & Rofiani, 2021).

CONCLUSION

Based on the results of the research and discussion that have been described, it can be concluded that there is a relationship between the age of menarche, knowledge, perception and sources of information with the psychological response during menarche at Khadijah Elementary School Surabaya. It is important to prepare young women to face menarche through accurate information, support from family and school, as well as nurses whose role is to provide education about the reproductive system to ensure a positive response when facing menarche.

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