

RELATIONSHIP BETWEEN MATERNAL CHARACTERISTICS AND MENARCHE IN SCHOOLGIRLS AGED 10-12

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Abstract

Adolescence is a period of transition or transition from childhood to adulthood which includes biological, psychological and social changes. The first menstrual period, also known as menarche, is the most important event in a girl's puberty. Adolescents must prepare themselves to face this event, and the role of mothers is very important in introducing menarche to young women. This research aims to determine the relationship between maternal characteristics and readiness menarche female students aged 10-12 years. Mother's characteristics include age, highest level of education, occupation, income, age menarche and number of family members. Cross-sectional used in this study with 89 respondents. The research was conducted on female students at SDK Santo Yusup III Malang. The results of this study show that there is a relationship between maternal characteristics and readiness menarche female students aged 10-12 years at SDK Santo Yusup III Malang, where the mother's age has a value of $p = 0.000$ ($r = 0.372$), the mother's last education has a value of $p = 0.001$ ($r = 0.480$), and age menarche mother $p = 0.002$ ($r = 0.453$) which means there is a relationship between the two variables. The correlation value in this study shows that maternal characteristics influence female students' readiness to face menarche.

Keyword: Characteristics of Mothers, Readiness for Menarche, 10-12 Years Old Student

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1. Introduction

Adolescence is when individuals transition from childhood to adulthood, undergoing various developmental changes as they approach maturity. Puberty, the biological stage marking sexual and reproductive organ maturation in adolescent girls, is characterized by significant hormonal fluctuations, leading to the onset of menstruation or menarche. These physical, psychological, and psychosocial changes are pivotal in adolescent development.^[1]

During puberty, estrogen levels surge, triggering numerous bodily changes in girls, including breast development, widening of the hips, growth of pubic and underarm hair, and the onset of sexual maturity marked by menarche.^[2] According to the WHO in 2018 and the Indonesian Minister of Health Regulation No. 25 of 2014, adolescents are aged 10-19.^[3]

In some Indonesian communities, there remains a taboo surrounding discussions about menstrual issues within families, particularly among mothers, in

preparation for menarche. Consequently, many adolescents are uninformed about the physical and psychological changes associated with menarche^{[4][5]}. Without proper understanding and preparation for this process, adolescents may develop aversions or resistance to it, leading to misconceptions about menstruation as being unclean, impure, or threatening^[6]. This situation is further compounded when adolescents engage in new experiences, adopt unconventional behaviors, and prioritize self-gratification^[7].

Mothers play a vital role in the growth and development of children, particularly during adolescence. It is through their mothers that adolescents start to understand the different sexual processes happening in their bodies and minds.^[8] As menarche marks a significant new beginning for an adolescent, the role of mothers in educating and preparing adolescent girls is crucial. Parents who are unprepared and fail to communicate about this will have an impact on them. This study sought to examine the connection between maternal traits and menarche readiness in female students aged 10-12 years.

A preliminary study conducted at SDK Santo Yusup III Malang involving 93 female students revealed that parents, particularly mothers, struggle to provide their children with information about menarche. The school principal reported that many mothers approached the school seeking guidance on educating their children about menarche during adolescence. These findings have spurred researchers' interest in exploring the link between maternal characteristics and the preparedness for menarche among female students aged 10-12.

2. Method

The present research employed a quantitative design, utilizing correlational analysis within a cross-sectional framework. The primary objective was to investigate the interplay of risk factors and their impacts through approaches,

observations, or data collection at a single point in time. Data were gathered using a questionnaire to assess maternal readiness for their children's menarche among individuals aged 10-12. The study comprised 93 participants, with 89 providing voluntary responses. Convenience sampling was employed, and ethical clearance was obtained through a formal letter to the participants—data analysis involved utilizing the contingency coefficient test to ascertain the relationship between the two variables under investigation. The research was carried out from March to April 2023.

3. Result and Discussion

The findings of the research on the characteristics of respondents about the readiness for menarche of school girls are as follows

Table 1. Characteristics of Respondents

No	Criteria	f (n)	%
1	Age (years-old)		
	a. 10	23	25.8
	b. 11	48	53.9
	c. 12	18	20.2
2	Grade		
	a. 4 th	27	30.3
	b. 5 th	29	32.6
	c. 6 th	33	37.1
3	Religion		
	a. Christian	43	48.3
	b. Catholic	37	41.6
	c. Buddha	7	7.9
	d. Islam	2	2.2
4	Information Sources		
	a. Parents	33	37.1
	b. Mothers	41	46.1
	c. Teachers	6	6.7
	d. Siblings/Cousins	2	2.2
	e. Internet	5	5.6
	f. Friends	2	2.2
5	Age of Menarche (years-old)		
	a. Not yet (10-12)	42	47.2
	b. 10	30	33.7
	c. 11	16	18.0
	d. 12	1	1.1

Table 1 shows the characteristics of 89 respondents; most students are aged 11 years, as many as 48 respondents (25.8%), and the minority is aged 12 years, as many as 18 respondents (20.2%). Based on research from the age of the child according to WHO (2014), a person aged 10-14 years is the transition of childhood period to adulthood. This age is characterized by hormonal changes in the body that determine the reproductive period in children.^[1] The results of this study at SDK Santo Yusup III Malang, the age of 11 years is the most important, where at this age, they should learn to understand things that will happen related to reproduction in the future.

Based on the research from the grade of the students, the majority of the students from the 6th grade were 33 respondents (37.1%), while the minority of the 4th grade were 27 respondents (30.3%). The religion of most of the students is Christian, with as many as 43 respondents (48.3%), and the minority is Muslim, with as many as 2 respondents (2.2%). The students also get the information primarily from their mothers, as many as 41 respondents (46.1%); a small proportion of other students get the information from their relatives and friends, as many as two respondents (2.2%). Adolescent girls need to be ready for menstruation. Therefore, they need to get precise information about the menstrual process and reproductive health during menstruation, especially from their mothers.^[9] Parents or mothers play a crucial role in children's readiness to face puberty, and mothers need to convey information about sexuality to adolescent girls. Parents or mothers are the primary source of information where adolescent girls learn and are guided to recognize their reproductive system.^[10]

Parents, especially mothers, should be the primary figures in their children's lives to help them prepare for puberty. Mothers can provide clear explanations tailored to their children's needs, enabling them to understand better and prepare for puberty

and menstruation. While the use of gadgets is common among children, it can have adverse effects if they are used for playing inappropriate games, accessing unsuitable content, or seeking information about menstruation online without proper guidance. Therefore, mothers need to step in and explain the concept of early menstruation to their children, drawing from their own experiences and understanding of their children's emotions to help them navigate this phase.^[11]

A significant number of students, 42 respondents (47.2%), have not experienced menstruation yet, while a small minority, only one respondent (1.1%), had their first menstruation at 12. Typically, girls experience their first menstrual period between 11 and 14. It is important to note that menstruation occurring before the age of 9 or after 15 may require medical attention to rule out any potential genital abnormalities. Therefore, parents or mothers should promptly seek medical advice if their child falls into this age group and has not yet experienced menstruation.^[12]

Table 2. Characteristic of Menarche Readiness

Menarche Readiness	f (n)	%
Ready	79	88.8
Not Yet	10	11.2
Total	89	100.0

Based on Table 2, most female students (88.8%) were found to be prepared to face early menstruation, while 11.2% were not. Juwita's study in 2019 suggests that well-informed girls are more prepared for menarche. The research emphasizes the importance of schools and mothers in enhancing reproductive health knowledge to help children prepare for menstruation and avoid negative experiences or psychological changes.^[2] The findings also highlight the challenges faced by adolescent girls who lack knowledge or communication with their mothers about menstruation and reproductive health.

Karakteristik Ibu dengan Kesiapan
Menarche Siswi Usia 10-12 Tahun

Table 3. Relationship between Maternal Age and Menarche Readiness at SDK Santo Yusup III Malang

Maternal Characteristic		Menarche Readiness		Contingency-Coefficient (r)	p-value
		Ready	Not Yet		
Maternal Age (years-old)	30-40	23 (25.8%)	9 (10.1%)	0.372	0.001
	41-55	55 (61.9%)	1 (1.1%)		
	56-65	1 (1.1%)	0		

The findings in Table 3 suggest that out of the 89 respondents, a significant proportion of mothers aged 41-55 years with schoolgirls approaching menarche (61.9%) were prepared for this developmental milestone. In contrast, a minimal percentage (1.1%) were not prepared. Similarly, a small fraction of mothers aged 56-65 years with schoolgirls ready to face menarche accounted for one respondent (1.1%). The statistical analysis using the contingency coefficient correlation test yielded a p-value of 0.001, below the conventional significance level of 0.005, and a correlation coefficient (r) of 0.372. Consequently, a statistically significant correlation exists between maternal age and the preparedness of 10-12-year-old schoolgirls for menarche. This indicates a relatively strong relationship between maternal age and the readiness of children for menarche.

Drawing from Notoatmodjo's research (2019), it is evident that age plays a pivotal role in shaping an individual's cognitive development. As individuals age, their perception and cognitive abilities undergo significant changes, contributing to the preparation of adolescent girls for menarche.^[13] The study further highlights that the highest maternal age group observed was 41-55

years, followed by 30-40 years. These age brackets are deemed mature for mothers to guide their children through the experience of menarche effectively. It is plausible that mothers in these age groups have acquired substantial knowledge and information from diverse sources to prepare their daughters for the onset of menstruation adequately.

Table 4. Relationship between Educational Level and Menarche Readiness at SDK Santo Yusup III Malang

Maternal Characteristic		Menarche Readiness		Contingency-Coefficient (r)	p-value
		Ready	Not Yet		
Educational Level	Junior High School	0	3 (3.4%)	0.480	0.000
	High School	22 (24.7%)	2 (2.2%)		
	Diploma	10 (11.4%)	1 (1.1%)		
	Bachelor	44 (49.4%)	3 (3.4%)		
	Master	2 (2.2%)	1 (1.1%)		
	Primary School Teacher Education	1 (1.1%)	0		

Based on the data presented in Table 4, 89 respondents from SDK Santo Yusup III Malang were analyzed to observe the relationship between educational level and menarche readiness. Most mothers held bachelor's degrees, with 44 students (49.4%) reported being ready to face menarche and 3 students (3.4%) not ready. A smaller subset of mothers with junior high school degrees had no students ready to face menarche, and 3 students (3.4%) reported not being ready. The statistical analysis using the contingency coefficient test yielded a p-value of 0.000, less than the significance level of 0.005, and a correlation coefficient (r) of 0.480. This led to the conclusion that there is a significant

relationship between the mother's educational level and the readiness of schoolgirls to face menarche, and the correlation between the two variables was deemed quite strong.

As noted by Prasetyo (2016), a child's level of knowledge also plays a crucial role in influencing a woman's readiness for menarche. Sources such as family, peers, school environment, and print and electronic media can be used to acquire this information.^[14] Selaras terhadap penelitian Rachmawati [2017], Furthermore, Rachmawati's research (2017), supports the notion that a child's readiness for menarche is contingent upon the explanations provided by parents, particularly mothers. The adequacy of information imparted to children about menarche is often linked to the mother's education. Mothers with moderate to high education levels facilitate children's understanding of reproductive health, especially menarche.^[15]

Table 5. Relationship between Occupation and Menarche Readiness SDK Santo Yusup III Malang

Maternal Characteristic	Menarche Readiness		Contingency-Coefficient (r)	p-value
	Ready	Not Yet		
Deceased	1 (1.1%)	0	0.205	0.973
Housewife	48 (53.9%)	9 (10.1%)		
Civil	8 (8.8%)	0		
Servant				
Private	10 (11.8%)	1 (1.1%)		
Employee				
Nurse	3 (3.3%)	0		
Midwife	1 (1.1%)	0		
Entrepreneur	3 (3.3%)	0		
Home industry	1 (1.1%)	0		
Doctor	1 (1.1%)	0		
Librarian	1 (1.1%)	0		

Dormitor	1 (1.1%)	0
y		
Caretaker		
r		
Civil	8 (8.8%)	0
Servant		

Table 5 indicates that 48 (53.9%) of housewife mothers with schoolgirls are prepared for menarche, while nine (10.1%) are not. A small percentage of other mothers have occupations such as midwives, home industry workers, doctors, librarians, dormitory caretakers, and merchants; each category represents one respondent (1.1%). The results of the contingency statistics test show a coefficient of $p = 0.973$, greater than 0.005, and a correlation value of $r = 0.205$. This suggests no significant relationship between the mother's occupation and the preparedness of schoolgirls for menarche. Additionally, the weak correlation indicates little association between the mother's education level and schoolgirls' readiness for menarche.

Various factors, such as age and sources of information from family, peers, and the school environment, influence adolescents' readiness for menarche.^[16] The mother's occupation significantly impacts a child's readiness for menstruation. Working mothers often have access to more information but less time to discuss it with their children, whereas homemakers have more opportunities to engage in such discussions. However, the quality and quantity of information provided to children need improvement.

Table 6. Relationship between Maternal Age at Menarche and Menarche Readiness at SDK Santo Yusup III Malang

Maternal Characteristic	Menarche Readiness		Contingency-Coefficient (r)	p-value
	Read y	Not Yet		

Mater	10	5	0	0.453	0.002
nal		(5.6%)			
Age	11	11	0		
at		(12.3%)			
Mena	12	25	6		
rche		(28.0%)	(6.7%)		
	13	14	0		
		(15.9%)			
	14	19	1		
		(21.5%)	(1.1%)		
	15	4	1		
		(4.5%)	(1.1%)		
	16	0	2		
			(2.2%)		
	17	1	0		
		(1.1%)			

Based on Table 6, there is a significant relationship between maternal age at menarche and the readiness of female students to face their own menarche. Out of 89 respondents, most mothers experienced early menstruation at age 12. Twenty-five respondents (28.0%) were ready to face menstruation, while 6 (6.7%) were not. The statistical analysis shows a p-value of 0.002, indicating a significant relationship. The correlation value of $r = 0.453$ suggests a moderate correlation between maternal menarche age and female students' readiness for menarche. Additionally, there is a strong correlation between the mother's education and the readiness of female students to face menarche.

Research by Mayangsari (2019) supports the idea that a woman's maturity can be influenced by her mother's age at menarche.^[17] Similarly, Solihah's research (2019) indicates a close relationship between the mother's menarche and the daughter's menarche age. It is suggested that a mother's experience of menstruation can impact her daughter's knowledge and preparedness for menstruation, ultimately influencing the daughter's readiness to face this physical change.

The study revealed that the most influential factors on the menarche readiness of female students at SDK Santo Yusup III Malang are the mother's age, her last education, and her age at menarche. Maternal characteristics,

including education level and age at menarche, play a significant role in shaping the family's approach to discussing reproductive health with their daughters. Mothers aged 41-55, having gathered ample information on early menstruation, are particularly influential in this regard.

The statistical test results of this study indicate a significant relationship between maternal characteristics and the menarche readiness of female students aged 10-12 years at SDK Santo Yusup III Malang. Specifically, maternal age (p value $0.001 \leq 0.005$), mother's last education (p value $0.001 \leq 0.005$), and age of maternal menarche (p value $0.002 \leq 0.005$) all show statistically significant associations.

4. Conclusion

Based on the results of study on the relationship between maternal characteristics and menarche readiness of schoolgirls aged 10-12 years at SDK Santo Yusup III Malang, the main finding is that the most influential mother is the mother's age, the mother's last education and the age of the mother's menarche with the category of ready schoolgirls greater in maternal age, namely 55 respondents (61.9%), from maternal characteristics with the category of unprepared schoolgirls (1.1%). Menarche readiness of schoolgirls with the ready category was 79 respondents (88.8%), menarche readiness of schoolgirls with the unprepared category was 10 respondents (11.2%). There is a significant relationship between the relationship between maternal characteristics and menarche readiness of female students aged 10-12 years at SDK Santo Yusup III Malang. It is hoped that the results of this study can be added as learning about menarche readiness and the role of mothers in maternal characteristics.

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