

Differences of "Menarche" Viewed from Geographical Location

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Abstract: This research is based on the assumption that geographical location will affect the incidence of "menarche" in a girl. Thus, the main objective of the research was to find out the differences in the incidence of "menarche" among female students in the highlands and lowlands. This research is a descriptive research. The number of samples was 255 people, consisted of 5-8 grade students aged 10-14 years in Lembang, Kuningan and Cirebon West Java. The sampling technique used was random technique. The research results showed that there were menarche differences between students in the highlands and lowlands. Menarche of the schoolgirls studying and living on highlands generally occurs above the age of 11 years, while on the lowlands, the percentage of menarche occurrence experienced at the age of 11 years. Menarche experienced by girls at the age of 10 years is more common to happen to the girls living on the lowlands, while menarche delay occurred to schoolgirls living more on the highlands than on the lowlands.

1 INTRODUCTION

Achievement sports is menstruation. The menstrual cycle is considered to be a disruption to either participating in the sports process or during menstruation that tends to impact on emotional changes and in motion stimuli changes.

Menstruation occurs to women starting at puberty age and marking a woman's ability to conceive a child. The first menstruation is called menarche. Not until a girl enters the puberty age, does the egg begin functioning and a process called the menstrual cycle occurs. Menstruation usually begins between the ages of 10 and 16, depending on various factors, including the girls' health, nutritional status, and relative body weight to the body's height. The average length of the cycle can vary in one girl during different times of life, and even from month to month depending on a variety of things including her physical, emotional, and nutritional health. Under normal circumstances, menarche (first menstruation) begins with a maturation period that can take 2 years.

Based on the preliminary observation result, with the help of a P.E teacher in some primary schools, it is known that students who experience menarche tend not to follow the P.E lessons and even other lessons with the sick reason for up to three days.

Psychological changes occur in these students, making them quieter, easily irritated and less active in learning. The condition is very reasonable because most students are not ready to face the menarche period. This indirectly becomes part of the task of the P.E teachers to help restore the psychological state that occurs due to menarche and provide a correct understanding of it.

An earlier menarche period will have an impact on the emotional and psychological instability of adolescents who are not ready to face the menarche. The consequences arising from unpreparedness have an impact on changes in adolescent behavior patterns that tend to be more introvert, shy or shock. Adolescents who are having menstruation are required to protect themselves from behaviors that can be new issues such as promiscuity. Late information about menstruation or menarche is feared to adversely affect children either psychologically or physically.

This research is aimed to study how big the differences of geographical location can affect menarche experienced by the pre-teenager. The connection between temperatures and geographical condition is an important part in determining samples. Research on the effect of temperatures or geographical location on the coming of menarche will

provide complete picture both for parents and for educational institution to address to menarche so that the negative impacts that occur can be anticipated especially when it is related to sports activities.

1.1 The Essence of Menarche

Menarche period is a very important period for a young woman as a phase toward maturity. As educators, we must certainly pay attention to the significance and importance of having understanding about menarche so that the learning of motion or sport can be adjusted. For sports coaches, understanding of menarche will have an impact on the preparation of the right training materials so that students, especially athletes still excel and practice maximally.

A broader understanding of menarche for educators will encourage the process of improving training materials so as not to endanger female participants in the future as indicated by Boyke's (2010; 20-22; Zaichkowsky; 1995; 55-79) concluded that, there is no correlation between menstruation that was undergone by women athlete toward running and long-short swimming achievement.

Menstruation is a natural thing that occurs in adolescent girls. Sutresna (2012: 71) described the meaning of menstruation. It is a process of releasing the outermost part of the uterine wall that causes bleeding, because eggs that have been ripe in the womb of women are not fertilized. In general, early menstruation (menarche) occurs at the age of 11-14 years. Menarche period is the most important period in the life of young women. Menarche's time is full of emotional, attitude and psychological changes in teenagers. Physical and psychological changes appear to accompany the menarche period.

Menarche period is a child's growth moment toward the adolescent phase. Adolescence is characterized by the maturity of sexual function and the achievement of adult body shape that occurs due to the maturity of endocrine function. Yeung et al (2005: 118) states that: "Menarche, the first menstruation, is an important transition event in the female life cycle. Menstruation is part of the developmental cycle toward maturity as an adult woman. Menarche is part of the signs of growth toward adulthood and is a transition from children to adolescence. Adolescence is a transitional period as Seifert and Schulz (2007: 220) explain that: "Furthermore, these transitions also have a potential for converging on a single point in time in the child's life, and the interaction of these transitions may have profound consequences, positive and negative, for the

child and on his or her psychosocial development and achievement in school".

1.2 Constraints, Behavioral Changes and Factors Affecting Menarche

Teens, who are having menarche, experience a number of physical and psychological changes. Physical symptoms are such as breast pain, stomach cramps due to contraction of the uterus muscles, nausea, abdominal bloating, stomach cramps, back pain, joint pain, achy and neck tension, headache, acne, irregular heartbeat and pounding, shortness of breath. Psychological symptoms are such as changes in behavior / personality such as over sensitive, easily irritated or angry, anxious, easy to cry, uncomfortable mood, fatigue, depressed, lack of confidence, nervous, confused, and difficult to concentrate, sleeping disorders, and changing sexual mood. Psychological and physical changes are experienced by adolescents who are having menarche.

Menarche is part of puberty for adolescent girls. Seifert and Schulz (2007: 199) explain that, pubertal development and the transition from middle or elementary school to junior high may present problems for some preadolescents. At the time of having menarche, teenagers generally consider themselves dirty or depressed psychologically due to lack of understanding of events that occur especially teenagers with minimal understanding of menstruation. Dasgupta and Sarkar (2008: 479) explain that, Mother was the first informant (37.5 percent girls) regarding menstruation, followed by friends. More than 85 percent girls believed that menstruation is a physiological process.

Community attitudes affect adolescent behavior in facing menarche. Dasgupta and Sarkar (2008: 479) states that: Menstruation and its practices are associated with taboos and sociocultural restrictions resulting in ignorance of knowledge about hygiene health practices". Furthermore, Fingerson (2005: 94) explain more about menstruation to the society: In US dominant culture, and indeed in most cultures, menstruation is seen as dirty, unpleasant, messy and overalls a nuisance. For example, Lee (1994) finds that women remembering menarche said it made them feel dirty, unclean, ashamed and even fearful. Chaturvedi and Chandra (Yeung et al (2005: 120) that: 'Menstrual myths and indigenous practices are still common in some countries For example, a menstruating Indian woman is considered as impure or unholy social activities. "Youth and community understanding of menarche affects their attitude and behavior towards menarche.

Dasgupta and Sarkar (2008: 479) explain that almost all women whom they studied have not understood the processes and practices to maintain their body's health and reproductive tools during the time of menstruation, as stated, regarding practices, only 18 girls used sanitary pads during menstruation while mostly used old cloth pieces. Cleaning of external genitalia was satisfactory in case of 136 girls (frequency of cleaning of external genitalia is two or more than two times a day). For cleaning purpose, more than 95 percent girls use both soap and water. Regarding method of disposal, 118 girls reused cloth pieces and 92 girls properly disposed the cloth pieces or sanitary pads. For restriction practices, only 15 percent of girls did not practice any restrictions. Out of the rest 136 girls, 96 did not attend any religious occasions, 68 did not eat certain foods (such as sour food, banana, radish and palm), 58 did not play and 46 girls did not perform any household chores.

In general, women who do not understand how to deal with menstruation will develop positive creativity and body response in order to reach physical and psychological balance as stated by Fingerson (2005: 91) that: "Girls' bodies are often constructed negatively and passively in their dominant cultures, but at the same time, girls may collectively construct menstruation and the body in creative way".

Menarche is part of the phase toward sexual maturity and lasts for some time. Beless et al (2009: 703) explains that: "Sexual maturation is an important life event for every human individual". Sexual maturity is characterized by physical changes, hormonal release, changes in body shape according to the typical body of a person. Golub et al., 2008; Stice, Presnell, and Bearman, 2001 (Belles et al., 2009; Freud, 1998) emphasized the importance of hygiene measures at the time of menstruation, ignorance of hygiene impact on behavior and cancer as described: 'It is known, for example, that an early menarche increases the probability of breast cancer, affective disorders, and risk behavior'.

The normal development of menarche period for teenagers in general has no impact on psychological or physical changes. Basically, the arrival of menarche is difficult to determine, because people have different dynamics and life. Golub (Yeung et al, 2005: 118) confirms that: 'Unlike other gradual pubertal changes, such as breast development and pubic hair growth, menarche usually occurs suddenly and without precise predictability. Delayed or early menarche period will affect the psychological development of adolescents. This is explained by Nelles et al (2009; miller, 1998) that: "Although

sexual maturation is an indispensable part of natural development, premature sexual development can have serious and sometimes negative consequences for physical and mental health"

1.3 Menarche and the Environment

The development and dynamics of the environment, especially pollution, are believed to have caused the acceleration of menarche based on the research conducted by Blanck et al., 2000; Parent et al., 2003 (Belles et al 2009:704) that: 'Several physical factors have been identified so far that are considered to be responsible for an acceleration of sexual development, such as increasing environmental pollution'.

Other factors affecting the accelerated development of menarche are the family environment, socioeconomic status, marital status of the family. As Ellis explains (Belles et al. 2009: 704): In particular, the family environment appears to have a substantial influence on the onset of the sexually reproductive phase of life'. A low socioeconomic status of the family, for instance, is associated with a precocious menarche. However, because socioeconomic status is correlated with numerous factors (e.g., caloric intake or access to health care), it is difficult to determine a specific relationship between socioeconomic status and age at menarche.

Children who have an active interaction in a family environment have slower sexual maturity than children with low interactions with fathers as described in the research. Bates (Belles et al., 2009: 704) said: "Reported that the more time fathers spend with their daughters and the more positive their dyadic interaction was during the very early years of life, the more delayed sexual maturation was several years later"

In general it can be concluded that the environmental conditions associated with the child's social psychology with the family affect the menarche cycle. Another factor that significantly affects menarche associated with caloric intake, food or access to health is the socioeconomic status of the family.

2 METHODS

To obtain the data in question, various studies were conducted, derived both from theoretical studies and from field empirical data. Theoretical sources as the basis for the frame of thought in the study are the main references that need to be revealed. The process

of data extracting and research procedure used descriptive method with survey analysis technique (Sugiyono, 2010: 11), Samples are taken randomly (Ridwan and Kuncoro, 2008: 43) Information and data of menarche incidence experienced by female students in lowland area were represented by SDN Langensari Lembang, SMP Mekarwangi and SDN Kuningan, while on the highlands, data were extracted from SDN and SMP students in Cirebon City. The focus of information relating to physical profiles is explored through the variety of questions about the onset of menstruation, the pattern of family life, daily activities, economic circumstances, etc. Extraction of menstrual state data is directed at two things namely 'menarche delay and menstrual dysfunction that follow'.

3 RESULTS AND DISCUSSION

Information about menarche events is as follows; out of 121 respondents of schoolgirls on the lowlands, 114 girls (94.2%) have experienced "menarche", and 7 female students (5.8%) have not experienced menarche. On the highlands, out of 134 respondents, 122 female students (91%) have experienced menarche, and 12 female students (9%) have not experienced menarche. In detail, the beginning age of menarche listed in the following table.

Table 1: Menarche on the highlands and lowlands.

Age	Highlands		Lowlands	
	Number	Percentage	Total	Percentage
10 years	2	1,5%	18	14,9%
>10 up to <11	27	20%	77	63,6%
>11 up to <12	68	50,8%	8	6,6%
<12 up to <13	12	9%	8	6.6%
>13 up to 14	13	9,7%	3	2.5%
Not yet	12	9%	7	5,8%
Total	134	100%	121	100%

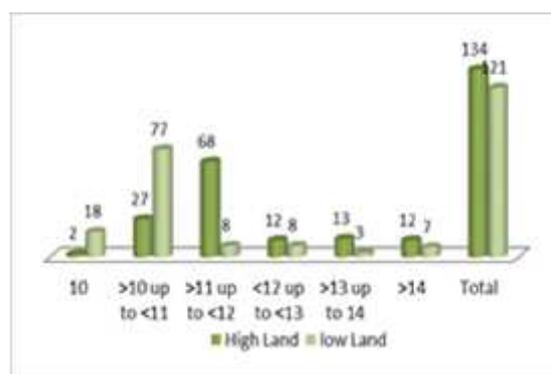


Figure 1: Menarche by age.

Referring to the tables and graphs of menarche events on high and lowland areas, it can be concluded that students who experienced menarche in the lowlands mostly experienced by students aged 10 to 11 years of 77 students (63%), while on the highland, the most menarche was experienced by the students aged 11 to 12 years of age of 68 people (50.8%), 2 students (1.5%) on the highlands have had menarche at 10 years old, on the lowlands it was experienced by 18 people (14.9%), as many as 12 (9%) have not experienced menarche even though they are 14 years old, while in lowland 7 people (5.8%).

Other data which were also extracted related to the effect of menarche on student behavior, lifestyle, daily activities, and response and interaction with the environment are as follows;

- The effect of menarche on the behavior and obstacles faced by students. In general, menstruation affects student's behavior. At the time of the incident, generally female students feel embarrassed, depressed, scared and cry. Other symptoms include physical disturbance like: discomfort, abdominal pain, dizziness, irritability, insomnia and back pain. Confusion in facing menarche is experienced by more than half of the respondents from both high and low areas.
- Differences in lifestyle and daily activities. Students in the lowlands follow many activities such as courses and sports activities in the club. While students in the highlands generally spend more time playing around the house. Lowland nutrient intake is better than that of the highlands. The physical growth of schoolgirls in the lowlands is faster.
- Response and interaction with the environment. At the time of menstruating, students in highland areas are more introvert. They lack access to correct information about health and menstruation. Feelings of embarrassment make

students in highland areas feel no need to reveal it to friends. 73% said they did not tell anyone and 23% said close friends knew about the incident. In lowland areas, 81% of students thought that other people do not need to know about the incident because it is a personal matter. 19% said that they told their close friends. 78% of students in the highlands claimed to have menarche information from parents and the remaining 22% obtained information from others such as older sisters. In lowland areas, only 49% asked about menstrual problems to their parents, the remaining 51% obtained information from older sisters, female cousins, and friends. Information disclosure allows students in the lowlands to obtain information about menarche from more sources such as books, internet, friends, teachers, relatives or girlfriends.

4 CONCLUSIONS

Significant differences in the incidence of menarches in highland and lowland areas are affected by nutrition intake, family economic conditions, different activities and lifestyles. Different lifestyle and physical and psychological development of students in both high and low areas are recognized to have different effects on the menstrual cycle. Physically, students who experience early menarche tend to grow faster because the adult process comes faster. Almost all students in both high and lowland areas experience uncomfortable symptoms like; abdominal pain, dizziness, irritability, insomnia, and waist pain at the time of early menstruation. Attitudes in dealing with menarche are generally the same but the amount of information that students have in the lowland area is bigger. This is due to the availability of information such as the internet, books on health and the scope of society that is more open to menarche problems.

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