

Behaviour Changes of Elementary School Students Who Had Menarche and Educational Program Needed Relating to Menarche

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Abstract

Menarche is a period in which girls get their first menstruation. It is a marker of a woman entering the phase of biological maturity or reproductive maturity. In the study of fiqh, menarche is the beginning of a woman entering the mukallaf phase and being responsible for her actions. Physical and mental changes follow menarche. Educational service which is relevant to these changes is needed. This study aimed to explore behaviour changes and the service that required by students following their menarche. This study was a qualitative study exploring teacher's perspectives on their observation and opinion about behaviour changes of menarche students and their further program and education needs related to menarche. The sample of this study was teachers in six elementary schools in Pekalongan City, Central Java Indonesia. The data were analyzed using thematic content analysis. The result indicates that female students that already menarche often seek attention to the opposite sex, post self-portraits on social media, and pay more attention to self-appearance. While, the programs they needed were education and counselling strongly related to menstruation, and mental and biological maturity, following the menarche.

Keywords: *behavior, menarche, elementary school student, student's need, school program*

INTRODUCTION

Menarche refers to the initial occurrence of menstruation in a young female throughout adolescence; the onset of menarche often takes place within the age range of 10 to 16, with an average age of initiation at 12.4 years (Lacroix et al., 2023). In health terms, Menstruation is the normal monthly release of blood and tissue from the uterine lining through the vagina

during a woman's menstrual cycle. Menstruation occurs between a girl's first period at menarche and menopause, when menstrual cycles end (Sweet et al., 2012).

Based on the preliminary study in Pekalongan City, many students at elementary schools in Pekalongan City are already getting menarche. Some got their first menstruation in grades 6, and grade 5 and some got their first menstruation in grades 4 (Malitha, et.al, 2020). It was quite younger than their parents or than the previous generation. Some teachers argued that from time to time, the number of students who experienced their first menstruation increased. This condition is different from some last times when the number of elementary school-aged children who experience menstruation is not as much as it now (Teachers in Pekalongan, 2022).

The impact of early menarche includes physical and psychological impacts, namely: depression, anxiety, fear, early pregnancy, height tends to be shorter than it should be, the potential for hypercholesterolemia as an adult, cardiovascular disease as an adult, risk of breast cancer (Lacroix, et al., 2022).

Regarding in school environment, based on the current study in urban cities in the USA uncovered disparities in girls' practical understanding and assistance with menstruation, difficulties associated with monthly pain during school hours, and the adverse effects of menstruation on girls' participation in physical or sports-related endeavours (Schmitt et al., 2021). This study also indicates a desire for enhanced counseling pertaining to the logistical aspects of menstruation management and approaches aimed at assisting adolescent females experiencing menstrual discomfort. The leading causes of discomfort and morbidity is dysmenorrhea, which should be urgently addressed (Anikwe et al., 2020). Therefore, it is crucial that the students, their parents, and school administrators in the study area be educated on the issues surrounding menstrual problems that adolescents may experience.

A study in Central Ethiopia found that residence in a rural area, source of information on menstruation, school restrooms with an interior lock, experiencing menstruation-related problems, and overall knowledge were all associated with Menstrual Hygiene Management (MHM) practice (Bulto, 2021). Therefore, it was suggested that efforts be made to increase adolescent girls' awareness of menstruation and MHM practices and to create school environments conducive to safe MHM practices. There is no existed publication in reputable

journal hat explored the behavioral changes of menarche student and the educational program needed in Indonesia.

This qualitative study aimed to explore students' behavioural changes in primary school and the services they need following their menarche. This research explored teacher's perspectives (n=8) on their observation and opinion about behavior changes of menarche students and their further needs related to menarche in Pekaloangan City, Central Java, Indonesia. The sampling technique was purposive, considering variation, adequacy, geographical aspects, the condition of the school and its uniqueness. The participants were invited to join in the focus group discussion. The interview questions were about menstruation among female students, teacher's attention, school program, education policy and services, and student needs or suggestions. The data was analyzed using thematic content analysis.

DISCUSSION

A total of eight persons participated in this study. The participants came from different geographical areas of Pekalongan City. The youngest participant was 28, and the oldest was 55. Six (75%) participants were teachers, and the others (25%) were headmasters. The shortest teaching experience was three years, and the longest was 23 years. The participant profile can be seen in table 1.

Table 1 Participant Profile

No	Name	Age	Position	Teaching experience
1	FY	34	Teacher of Islamic subjects	12 years
2	MR	31	Teacher	7 years
3	M	41	Headmaster	16 years
4	MDA	37	Teacher	15 years
5	K	43	Headmaster	18 years
6	A	55	Teacher	23 years
7	NS	28	Teacher	4 years
8	I	29	Teacher	3 years

Behavior Changes of Menarche Students and the Teacher and School Measures to Address the Changes

There are several behavioral changes and different needs of among elementary students in Pekalongan City, Central Java, Indonesia. Seeking attention, being more selfish, and paying attention to their appearance were the common changes of students in the early menarche (refer to table 2). These changes supported previous study among 2000 adolescents in Shiraz City, Iran, which reported that the most prevalent emotional-behavioural problems among adolescents were emotional symptoms (Tayebi et al., 2020). The age of menarche was significantly associated with emotional and behavioural difficulties. It is necessary to understand the issues that adolescent females face during adolescence and how to address them.

Another study in China indicated that psychopathological symptoms, suicide, and self-harming behaviors are more prevalent among students with early menarche than those with on-time or late menarche (Deng et al., 2011). Over time, the effects of early menarche on the disorders may diminish. In Chinese girls, early menarche may function as a predictor for disorders.

Table. 2 Behavior changes of menarche students and the teacher and school measures to address the changes

No	Aspects	Details
1	Behaviour changes that can be observed	1. Often seek attention to the opposite sex 2. Often post self-portraits on social media 3. Pay more attention to self-appearance, preening, pay attention to clothing and style
2	Observation in learning activities	During menstruation, some students with high learning motivation were usually weak and lacked enthusiasm. This symptom occurred in almost all female students
3	Teacher attention to changes in female students' attitudes	The teacher had noticed changes in the attitudes and behaviour of menstruating female students. Observed briefly, not specifically
4	The teacher's experience when interacting with students	During the learning session, there were students whose enthusiasm for learning had decreased, and when asked, they answered that their stomach hurt, they were menstruating.

5	School meetings on managing female students who were menstruating	Schools had never held a meeting with the theme of discussing female students who are menstruating and the services that schools need to provide
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Menstruation is natural for women. Theoretically, menstruation is the periodic discharge of blood and tissue from the vagina of a woman who is not pregnant as the culmination of the menstrual cycle. Menstruation occurs every 28 days from puberty to menopause, except during pregnancy. Menstrual blood flow occurs for about five days, which varies from woman to woman (Medical Dictionary, 2022). Menstruation is a periodic event in a sexually mature woman who is not pregnant. A mature egg (ovum) is released from the ovary once every four weeks until menopause (Oxford Reference, 2022).

Menstruation is one of the natural processes of a woman who experiences shedding the inner uterine wall (endometrium) that comes through the vagina (Prawirohardjo, 2007). The first time menstruation in adolescents is called menarche, which generally occurs between 10-16 years, but the average is 12.5 years (Marques, 2022).

Menstrual cycles during adolescence are usually irregular, especially during the first menstrual cycle towards the second menstruation. The immaturity of the hypothalamic-pituitary-ovarian (HPO) in the first years of menarche is the cause of irregular menstrual cycles, so processes vary from the shortest cycle (<20 days) to the longest cycle (>45 days). In the 3rd year after menarche, 60-8-% of menstrual cycles are in the 21-34 day range, which is the typical adult cycle (Hikey and Ballen, 2003).

Based on the data confirmed in the discussion, this study found that many female students at elementary school in Pekalongan City had experienced their first menstruation (menarche). There was a tendency for menarche rates to increase from year to year and students from grades IV experienced menarche to VI. Following their menarche, some behavioural changes were observed, such as students seeking attention to the opposite sex, posting self-portraits on social media more frequently, and paying more attention to self-appearance, preen, and pay attention to clothing and style. These changes are expected as when they are getting menarche, and they produce more reproductive hormones influencing their physical and psychological changes (Prawirohardjo, 2007). Menarche is also a sign that a girl is already entering puberty, so, normally, she feels attracted to the opposite sex because their sex hormone already work. This study found that regarding learning activities, some

students who had high learning motivation during menstruation were usually weak and lacked enthusiasm. It is rational because, during menstruation, female blood discharge triggers anemia and hypotension, making them weaker and lacking enthusiasm. Menstruation also brings psychological sensitivity, so they are more sensitive. It is already known that there is a premenstrual syndrome. Premenstrual syndrome (PMS) is prevalent among numerous students (Eshetu et al., 2022). The primary premenstrual symptoms reported by students were abdominal cramps, feelings of depression, and weariness.

Based on the information gathered from the teacher in this study, there was no meeting between teachers to discuss menstruation experienced by the student and to find out the appropriate service for them. These findings bring on the analysis of further recommendations as provided in the following explanation.

Student Needs, Recommended Programs, and Policies Related to Menarche Student

Based on the interview with teachers, there is a lot of need and recommendation for programs and policies to improve education supporting menarche students and student health. All requirements and recommendations can be seen in the tables.

Tabel 3. Program schools needed relating to menarche

No	Variables	Description
1	School program on managing female students who were menstruating	Schools do not yet have a special program regarding attention to female students who are already menstruating
2	Special guidance for female students regarding reproductive health, Islamic jurisprudence and psychological guidance	1. The school does not yet have a special guidance program regarding student growth and development 2. Guidance regarding reproductive health has never been given 3. Guidance on menstruation and psychology has never been given
3	Teacher's views on reproductive health guidance, menstruation and psychology	1. Schools and madrasas need guidance on reproductive health and child development 2. The guidance is considered very important and helpful for female students

4	School facilities for female students	Schools do not yet have facilities for the needs of female students who are already menstruating
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Table 3 indicates that there was no specific program, guidance and facilities provided by school for students during their menarche period. Teachers viewed that schools and madrasas need guidance on reproductive health and child development.

Table 4. Educational services for elementary students based on mental and biological maturity

No	Education services	Description
1	Education about menstruation and health	Given to students from grade IV
2	Menstruation education and religious obligations	Given to students starting grade IV
3	Education about puberty, mental health and social relations	Given to students starting grade VI

Table 4 shows that education related to health, menstruation and religious were given for elementary student in between grade IV-VI.

Table 5. Education Policy and Services

No	Variables	Description
1	Guidance from the Department of Education or Department of Religion regarding educational services for female students who are already menstruating	The school has never received guidance, training or other forms of managing the growth and development of students from the Department of Education or the Department of Religion of Pekalongan City.
2	Guidance for students from the Department of Education, Department of Religion, and Department of Health	Students have never received guidance from the Department of Education, Department of Religion, and Department of Health regarding reproductive health, menstrual problems and psychological guidance.
3	Menstruation materials for students	Subject about menstruation was given to fifth-grade students in religion and science lessons.
4	The teacher's opinion about Menstruation material	The menstrual subject is very important for female students; as menstruation progresses,

		menstrual material needs to be given from grade IV
5	Other materials needed for female students	According to the teacher, four materials need to be given: Reproduction system, how to maintain the health of the reproductive organs, fiqh menstruation, sex education, and adolescent mental health and behavior

Table 5 reveals no specific guidance and training to address reproductive health provided by the Government in the primary school. Students only received menstruation materials in the science and religion subjects. Teachers said that the menstruation subject was crucial and should be given in-depth for students.

Table 6. School needs for education about psychosexual and psycho students

No	Variables	Description
1.	The school needs related to female students' menstruation	<ol style="list-style-type: none"> a. A particular program for all grade four, five, and six students about menstruation so that if they experience menstruation, they have sufficient knowledge and are not surprised. b. Materials that need to be provided: how to maintain the health of the reproductive organs, the meaning and impact of menstruation for women, procedures for hygiene and health during menstruation, how to protect oneself from uncleanness, psychological guidance and mental health and association with the opposite sex and religious laws and guidelines for worship. c. Schools need special facilities for counseling students who have experienced menstruation and puberty. Special facilities include special officers (teachers can do it) educational and counseling materials, and counseling rooms. d. The school prepares sanitary napkins, a change of clothes, antihypertensive drugs, vitamins and other medicines needed by students who experience menstruation with heavy and accompanying symptoms. e. Special guidance and counselling materials especially to accompany the psychology of female students. f. Schools need educational tools such as posters, pocketbooks, digital educational media, and textbooks appropriate to children's physical and psychological health.

2	School aspirations for the Department of Education	<ul style="list-style-type: none"> a. The Department of Education should provide education/socialization to schools about techniques for accompanying students who have menstruation b. Facilitate school equipment for counselling, education and guidance on child development c. Improve the function of the School Health Unit (<i>Unit Kesehatan Siswa/UKS</i>).
3	School aspirations for the Health Service	<ul style="list-style-type: none"> a. The Health Office can provide education/knowledge to teachers about menstruation, its problems and management from a health science perspective b. The education office produces educational materials for students about health, reproductive health and mental health c. Facilitating UKS with health education activities according to school needs

Table 6 shows the teachers' views about the school needs related to female students' menstruation, school aspirations for the Department of Education, and School aspirations for the Health Service. Teachers generally viewed that schools need particular programs, materials, facilities, medicine, guidance and tools to support students during their menarche.

All programs mentioned above are based on the current situation and student needs. As we understand, menarche is the first menstruation that brings many challenges among female students. From the biology perspective, menarche indicates that the student has entered a period of sexual maturity, and the reproductive organs are functioning perfectly. During this phase, fertilization and pregnancy can occur as menarche, the initial occurrence of menstrual blood, is a well-documented and significant milestone in female puberty that marks the onset of ovulation and reproductive capability (Guldbrandsen et al, 2014).

Providing sufficient menstrual hygiene facilities, free hygiene products, and timely instruction on menstruation health for both boys and girls is an essential intervention in schools (World Health Organization, 2022). These measures are necessary to promote health, well-being, and equal chances for learning and prevent pregnancy before marriage.

On the other hand, a student getting their menarche has a lot of behavioral changes, as mentioned in the previous chapter, such as starting to put interest in the opposite sex, concern about their physical appearance, selfishness and lack of enthusiasm during learning activities. Thus, programs and policies at school should provide support to ensure that students can understand the border or friendship between the opposite sex and politeness in

friendship. It is important as so many cases related to free sex and pregnancy before marriage affect adolescent health and wellness. A study found that married utilise MHS more than single pregnant (86% to 67,1%) (Mekwunyei, 2020). Moreover, pregnancy at a young age is also a risk because the younger the pregnant, the lower the visit rate to the antenatal care service (A. Kurniati, 2018). If the pregnant didn't get enough antenatal care, mom and babies health condition cant be observed.

The importance of having a positive body image also needed to be given, as poorer body image significantly correlated with the quality of life (Schwieger et al. 2016). Furthermore, tips on improving their learning motivation are also essential as students fall in wrong activities rather than joining class/study. These explanations have been detailed in table 3 and 4.

All needs were identified, and all recommended programs could not be realized without support from related departments such as the Department of Education, the Department of Religion, and the Department of Health in Pekalongan City. Collaboration is needed to make it happen. The recommendation to mentioned department has been explained in Tables 6 and 7.

Attempts to develop additional education about menstruation and the psychological development of students are theoretically very open. First, the Government provides opportunities for educational institutions to develop their curricula and programs. In the Education Unit Level Curriculum concept (KTSP), academic units can develop teaching materials and other programs following the school's characteristics and students' needs. Likewise, in the concept of the Free Learning Curriculum, schools can design their curriculum and educational services, taking into account the needs of students. The curriculum is no longer a standard document but a dynamic guide. Students are no longer objects but subjects and become leaders of learning activities (Ministry of Education and Higher Education Indonesia, 2022)

In the context of governance and government organization, education is one of the areas included in regional autonomy affairs. In Law No. 32 of 2004 article 14, one of the mandatory district/city government affairs is the administration of the education sector and the allocation of potential human resources (UU RI, 2004). Simultaneously with the handing over of education affairs to the regional Government, the regional Government has the

mandate to carry out the task of decentralizing education. Decentralization of education is the delegation of authority from the central Government to provincial governments to carry out planning, implement education, and address problems in their regions (Hidayat, 2016). Decentralized education for Elementary Schools and Madrasah Ibtidaiyyah is an academic unit under the Government of Pekalongan City and the Ministry of Religion of Pekalongan City. Therefore, the local Government, in this case the Pekalongan City Education Office and the Pekalongan City Ministry of Religion, can design educational policies that are enforced at the Pekalongan City government level or encourage education units to compile additional content at the Education Unit Level Curriculum.

Based on data, programs and analysis of collaboration between the Health Office of Pekalongan City and the elementary school, the opportunity to develop additional education for elementary school is also very open. The Department of Health of Pekalongan City has a health promotion program, one of the targets of which is Elementary School and Madrasah Ibtidaiyyah students. The Department of Health, through The community Health services (Pusat Kesehatan Masyarakat/Puskemas) is collaborating with Elementary Schools and Madrasah Ibtidaiyyah regarding health services.

Among the contents of the collaboration between the Health Service and Schools/Madrasahs are providing light equipment for Health Unit at School (Usaha Kesehatan Sekolah/UKS) activities, providing immunizations, providing health education, dental check-ups and providing referrals if needed (Kandang Panjang elementary school, 2019). Considering the growth and development of elementary students, Health Department can develop programs in collaboration with elementary schools.

For example, in letter (c), the cooperation agreement reads that the second party (Puskesmas) provides health education to students once a year. Activities that have been carried out include counselling about nail health and hygiene, brushing teeth and eating. Considering that many female students are already menstruating and the acceleration of student psychological maturity, counseling activities for students in the future can be adjusted. Counselling themes that can be given include menstruation, reproductive health, puberty and other themes. Schools and madrasahs can submit requests for resource persons from the Puskesmas, and the Puskesmas already have units for health promotion and UKS coaching (Personal Communication with dr. Endah, 2022). Providing School-based health

centers (SBHCs) is also important as it could enhance the accessibility of healthcare services for students by reducing various obstacles such as financial constraints, geographical limitations, age-related factors, and cultural disparities (Kjohlhede and Lee, 2021). In addition, giving access on mental health service at school also necessary. A study in Iran found a significant reduction in the prevalence of moderate-to-severe mental health issues among the students in the intervention group compared to the control group (Shahraki-Sanavi et al., 2020). Hence, implementing strategies such as identifying student challenges, fostering parent-teacher collaboration, and seeking guidance from expert counsellors can prove to be efficacious in offering pragmatic and efficient resolutions in this domain. These challenges included mental and behavioral changes during menarche.

Counselling about menarche and menstruation remains essential, especially in urban settings, as a study (n=1157) indicates that the knowledge of student on puberty, menarche, and menstruation, 67.20% of rural participants had good knowledge. In contrast, only 46.00% had good knowledge of the urban setting (Ajong et al., 2020).

In the text of the cooperation agreement, schools also have several obligations, including supporting all school health programs and cross-health programs related to the school. Schools must also prepare at least two teachers to accompany the implementation of health services. However, in focus group discussions, only a few reports were found that UKS were active in carrying out activities effectively. Many UKS have minimal facilities, and even their existence is not optimal. This finding was still far from the criteria of a Child-friendly school that should Provide practical guidance on the operation and management of child-friendly schools, elaborating on the roles of school administrators, teachers, non-teaching employees, students, parents, communities, and local and national education authorities, and create safe, welcoming learning environments for children (UNICEF, 2006). The function of school and UKS as well as teacher should be elaborated so can safe and comfort student in the school during the menarche phase.

The key to realizing the idea of developing education with additional educational materials on menstruation and student growth is that schools have to concern for their students' biological and psychological development. School policies and programs based on the needs of students are also needed. Moreover, the Government should provide policies and facilities as the school's and students' needs.

CONCLUSION

School or madrasah principals and teachers already know that some of their students are experiencing menarche or their first menstruation but have never carried out specific data collection. Schools and Madrasah Ibtidaiyyah did not yet have data on the number of students who had menarche, menstruation, and the typical symptoms of menstruation experienced by female students, which affect learning activities at school. Schools had also not mapped out the physical and psychological needs of providing special programs for them.

Some Madrasah Ibtidaiyyah and private elementary schools have provided materials on menstruation and the fiqh of worship for their students and additional activities, such as princesses. But according to the teacher, the material is not yet focused and insufficient; it still needs to be developed further because it is not sufficient for the needs of the students.

At Public Elementary Schools, material about menstruation is given in Biology and Physical Education, Health and Sports. According to school administrators, the material is insufficient and needs development. Educational materials about menstruation and reproductive health in textbooks are still minimal.

Further services are needed, including education and counselling that focus on menarche and menstruation, as well as providing them with the physical and social environment of the school that supports them to get healthy during their menstrual period.

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