

Chapter 9

MENSTRUAL HYGIENE MANAGEMENT IN ADOLESCENTS

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INTRODUCTION

Menstrual hygiene is a concept directly related to reproductive health, education and labor force participation (Garikipati and Boudot, 2017). The society's reluctance to talk about menstruation and creating deep taboos on the subject may cause inadequate hygiene management of women (House et al, 2013). Considering that the source of information, especially in adolescents, is only mother, aunt, close peers and relatives, it causes limited information about menarche and menstrual period. This situation may cause adolescents to be caught unprepared for their menstrual period and to be embarrassed. As a result of the difficulty in accessing information, loss of reproductive ability may occur and serious consequences may occur. Timely, accurate and appropriate information given by health professionals, convenience in sanitation and cleaning, accessible, safe and affordable materials, access to health services, positive social norms and policies are important for managing menstrual hygiene (UNESCO, 2014). Nurses are in a key position to provide appropriate information on menstrual hygiene, especially because of the communication they have with many people at all levels of society. This review has been discussed in line with the current literature in order to improve menstrual hygiene behaviors in adolescents.

MENARCHE

The onset of the menstrual cycle in adolescents is defined as menarche. Menarche usually occurs between the ages of 10-16. The mean age is 12.4 years (Marques et al., 2022). There are some determining factors in the onset of the menstrual cycle. In the researches, it is seen that the socioeconomic conditions of the adolescent, the genetic structure, general health status, nutritional habits and seasonal con-

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ditions are effective. Menarche is usually painless and independent of any stimulus. The first cycles experienced by adolescents are usually irregular and without ovulation. Menarche is associated with the development of secondary sex characteristics, as well as the initiation of reproductive abilities (Rees, 1995). Menarche occurs thanks to a number of physiological stages that occur in the hypothalamic-pituitary-ovarian axis for the realization of menarche. These physiological stages occur depending on the functional hypothalamic and pituitary function, the absence of an anatomical problem in the reproductive system of the woman, the diet and the absence of chronic diseases. Absence of menstrual periods that are not related to pregnancy or the absence of menarche is defined as amenorrhea. The absence of menarche until the age of 15 is called primary amenorrhoea, and the absence of menstruation for 3 or more years after menarche is called secondary amenorrhea (Carlson and Shaw, 2019). At this stage, nurses and other health professionals should follow the age of menarche of the adolescents they care for. The fact that menarche occurs before the age of 10 or after the age of 15 indicates that there may be problems in the reproductive ability of the adolescent in the future (De sanctis et al., 2019).

Physiology of Menarche

At the 9th week of intrauterine life, GnRH neurons migrate to the hypothalamus via the forebrain. Luteinizing hormone (LH) and follicle stimulating hormone (FSH) are started to be secreted into the fetal circulation by the pituitary at the 12th week. Secreted LH and FSH levels peak at approximately 20-24 weeks. However, LH and FSH levels are low at birth (DiVal et al., 2008). Pulsatile release of GnRH and hence LH and FSH is required for puberty and menarche. Puberty in girls generally begins after the age of eight with the development of the breasts (thelarche). This process continues with the development of pubic hair and menarche.

Menarche usually occurs about 2-3 years after Thelarche occurs. It is not normal for menarche to occur before secondary sexual characteristics develop. Therefore, nurses and health professionals should examine girls who present with the complaint of vaginal bleeding before puberty for sexual abuse, genital trauma, tumors or bleeding disorders (Lacroix et al., 2022).

MENSTRUAL CYCLE

Follicular/ Proliferative Phase

The first phase of the menstrual cycle is called the follicular or proliferative phase. The menstrual cycle takes place, on average, for 28 days. The first 14 days of this period depend on the follicular phase. Changes in the follicular phase also affect the duration of the menstrual cycle. The main hormone controlling this phase is estrogen, specifically 17-beta-estradiol. The increase in estrogen occurs with the stimulation of FSH receptors in the follicle at the beginning of the cycle. In addition, an increase in the amount of estrogen towards the end of the follicular phase will suppress FSH with negative feedback. It ends with the development of the endometrial layer of the uterus during the follicular phase (Herbison, 2020). At this stage, the primary follicles present in the ovaries begin to develop into Graafian follicles. Other primitive follicles begin to regress as the graafian follicle transforms into a mature follicle. This situation is one of the preparatory factors for the next stage.

Ovulation

Ovulation occurs every 14 days before the onset of menstruation. Therefore, ovulate on the 14th day of the 28-day menstrual cycle. Towards the end of the proliferative phase, the maturation of the graft follicle and the increase in hormone production increase the estrogen level. During this time, 17-beta-estradiol plays a role in increasing the production of FSH and LH. Thus, FSH and LH levels remain high. The elevation of FSH and LH levels in the blood is called the LH surge. As a result, the maturing follicle ruptures in the middle and an oocyte is released (Thiyagarajan et al., 2022).

Luteal Phase

The process from day 14 to day 28 of the menstrual cycle is governed by the luteal phase. The main hormone in this phase is LH. It prepares the corpus luteum and endometrium for implantation by stimulating the secretion of progesterone. Once the luteal phase has ended, progesterone will provide negative feedback to the anterior pituitary to lower FSH and LH levels, followed by 17-beta-estradiol and progesterone levels. Progesterone level is high at the beginning of the luteal phase. Progesterone increases the hypothalamic temperature, so body temperature is high during the luteal phase. If pregnancy occurs, the fertilized ovum implants into the endometrium and the corpus luteum persists and maintains hormone

levels. If pregnancy has not occurred, the corpus luteum regresses and serum levels of 17-beta-estradiol and progesterone fall rapidly (Thiyagarajan et al., 2022).

Menstruation

With the decrease in hormone levels, the endometrium cannot be fed. This condition is defined as menstruation, which is considered to be day 0 to 5 of the next menstrual cycle and is characterized by bleeding. The duration of menstrual bleeding is variable. Menstrual blood is mainly of arterial origin. Only 25% of this blood is venous blood. Menstrual blood contains prostaglandins, tissue residues and endometrial layer residues and fibrinolysis. Fibrinolysis dissolves the clot so that there are no clots in menstrual blood.

Menstrual bleeding usually occurs in a period of 3-5 days. The amount of blood loss that occurs during this process can range from light spotting to 80 mL. It is known that the average blood loss is 30 mL. A blood loss of more than 80 mL is considered abnormal. The drugs used, the thickness of the endometrium, blood disorders and blood coagulation disorders, etc. Various factors affect blood flow, including (Thiyagarajan et al., 2022).

Menstrual Hygiene in Adolescents

Menstruation is a physiological event that continues from menarche to menopause and is a part of the reproductive cycle. Menstruation, which constitutes a large part of a woman's life, is a condition that requires physical, mental and social harmony. The society's perspective on menstruation is as important as adapting to the physiological changes experienced by the woman during the menstrual cycle. There are taboos on this subject in many parts of the world. Talking about menstruation-related issues among individuals is limited and considered shameful. All of these limit women's knowledge about menstruation and complicate their practice (House et al, 2013).

Social Factors

Girls in low- and middle-income countries enter puberty with a lack of knowledge and false expectations about menstruation. At the same time, it is difficult for them to cope with the changes they will experience in adolescence and they do not know how to seek help. This is because the adults around them, including parents and teachers, do not have enough information. Also in most cultures sexuality, reproduction and menstruation; the subject is not talked about because it reminds of dirty, polluting and embarrassing things. This situation causes many girls in many countries to experience a lack of knowledge about menstruation.

On the other hand, girls entering puberty with misconceptions cause them to be unprepared for menstruation, causing fear and anxiety. Girls use their mothers, older sisters, female peers and close family members as sources of information about menstruation. However, the information they acquire may not always be appropriate and sufficient. The number of girls obtaining information from sources such as mass media and the internet is limited. All of these causes can cause dysmenorrhea, headaches, and fatigue. Generally, health problems experienced during the menstrual period are not considered among the sufficient reasons for applying to the health center. Herbal teas or home remedies are mostly used to relieve menstrual pain. Girls are less likely to buy and use sanitary pads, especially in poor urban and rural communities. Instead of sanitary pads, old cloths, cotton, paper, etc. materials are common. Lack of privacy in homes and schools, problems with access to clean water, and multiple toilets make it difficult for girls to manage their menstrual period (Venkatraman et al., 2020).

It is thought that failure to provide menstrual hygiene may cause reproductive system infections (Sumpter and Torentdo, 2013). Being unprepared for the menstrual period, being ostracized and embarrassed during the menstrual period, and inhibiting self-care weaken the girl's sense of responsibility for her life, sense of self-worth and feeling safe. Therefore, obtaining appropriate information about menarche and planning interventions for effective management of menarche is one of the important tasks of nurses and health professionals (Venkatraman et al., 2020).

Schools are one of the important places to ensure the menstrual hygiene of adolescents. In addition to water and sanitation facilities in existing schools, having teachers who know menstrual hygiene and support children is one of the measures that can be implemented in the education system. It has been shown that when such measures are not taken, it negatively affects girls' ability to concentrate on lessons, stand up and answer questions (Tegegne & Sisay, 2014). In addition to these, the inadequacy or absence of emergency supplies such as menstrual pads and underwear in educational institutions, the lack of a special place to rest when they experience menstrual cramps, and the lack of guidance regarding the menstrual period cause girls to feel uncomfortable at school during their menstrual period. (Crofts and Fisher, 2012, Tegegne and Sisay, 2014).

Physiological Factors

Anatomically, it is known that female urethra is shorter than male urethra. In addition, the proximity of the vagina and anus, the fact that the perineum is a closed

environment, and the warmest and most humid region of the body cause women to experience more genital and urinary system infections than men (Saltoğlu, 2008). Failure to clean the genital area from front to back or careless handling of hygiene causes microorganisms such as *Escherichiacoli* to be transported from the anal area to the vagina and urethra. In addition, not changing underwear at frequent intervals causes increased humidity and facilitates infection. In addition to the fact that women are anatomically prone to infection, the moist, warm and bloody environment formed by the accumulation of menstrual blood on the pads during the menstrual period creates a suitable ground for the reproduction of microorganisms and increases the risk of infection (Karatay and Özvarış, 2006). In order to prevent this situation, women should have knowledge about hygiene, appropriate materials and facilities (Sowmya et al, 2014).

Nursing Care in Menstrual Hygiene Management of Adolescents

Failure to provide proper menstrual hygiene negatively affects health status and may cause problems in social and economic areas such as education, water, sanitation and work (Boosey and Wilson, 2014). Especially in low and middle-income countries, the lack of suitable materials to manage menstruation, inadequate water, sanitation and hygiene facilities adversely affect the health of women living in these countries. The sociocultural norms of countries and even regions can also reduce the accuracy of the information about the menstrual period and hygiene that should be given at menarche in adolescence (Kennedy et al, 2015; Sustainable Sanitation Alliance, 2016). Instead of telling the right practices about menstrual hygiene management to adolescent girls, telling myths and traditions may cause their reproductive health to be negatively affected (Kumar and Srivastava, 2011). Culture is a social legacy that is passed on from mother to daughter. If the mother has false beliefs and taboos about menstruation, this culture is also transferred to the girl (MDWS, 2015). The fact that menstruation is taboo in many cultures also contributes to gender inequality by causing women to be stigmatized or shamed (Kandel et al, 2015). In this case, women often develop their own menstrual hygiene management strategy. Place of residence, personal preferences, economic situation, traditions of the country and level of knowledge affect menstrual hygiene management (Sumpter & Torondel, 2013; Arumugam et al, 2014). Menstrual hygiene management is the use of a clean material that collects or absorbs menstrual blood by women, this material can be changed as often as necessary during the menstrual period, the supply of water and soap necessary for washing the body as needed, and the proper disposal of used menstrual material (House et al,

2012). ; UNESCO, 2014; UNICEF, 2015). For menstrual hygiene management, it is necessary to provide women with personal information, to introduce the materials to be used and to organize the social environment accordingly (Eijk et al, 2016).

It includes “normal physiological findings”, “hygiene knowledge” and “cases that require admission to the hospital” regarding the menstrual period (Eijk et al, 2016). Among the normal physiological information that women should know, there should be topics such as the characteristics of the menstrual cycle, conditions affecting the menstrual cycle, and menstrual syndrome. Every woman’s cyclical characteristics are different. Premenstrual syndrome characterized by breast tenderness, irritability, anger, and edema can be seen before menstruation (Taylor et al, 2010; Taşkın, 2020). Timely and accurate provision of personal information to women to facilitate menstrual hygiene management is critical for a healthy and successful management of menstruation (UNESCO, 2014). The first stage in the treatment of this syndrome consists of the consultation of the nurse. Nurse-led counseling should include: (Demirtaş, 2006; Karatay and Özvarış, 2006; Bozkurt Demirel et al., 2012; Ministry of General Education, 2016);

- There are life behaviors that need to be done to reduce symptoms. Among these, it is recommended to limit dietary caffeine and sodium intake, increase vitamin intake, exercise and use of analgesic and antidiuretic drugs (Taşkın, 2021).
- Hygiene elements should be explained to girls in order to ensure effective menstrual hygiene during the menstrual period.
- In addition to the hygiene rules that should be observed in daily life, the increase in the risk of infection during the menstruation period requires additional precautions (House et al, 2012; Millington and Bolton, 2015).
- Underwear should be washed with soap at high temperatures.
- While maintaining genital hygiene, cleaning should be done from front to back. It is important to use hygienic toilet papers at once while cleaning.
- During menstruation, as the pH of the vagina turns into an alkaline structure, the flora of the vagina deteriorates and the possibility of infection increases. For this reason, it should be informed that taking frequent showers during menstruation reduces the possibility of infection.
- Since the cervical opening increases during menstruation, it is necessary to take a standing shower.
- During the menstrual period, the hygiene product used should be changed every 3-4 hours, that is, 6-8 times a day.

- Disposable and hygienic pads / tampons should be preferred during the menstrual period.
- The material used should be a feature that can be easily changed in any environment.
- If a pad is preferred for providing hygiene, the process of placing the pad in the underwear and removing it from the underwear should be done from front to back.
- Colorless and fragrance-free pads should be preferred.
- Since menstrual cups require emptying, washing and drying, they are materials that can be used when adequately cleaned (House et al, 2012).
- To dispose of used sanitary pads, wrapping , burying, burning or washing away methods can be used.
- The pads used in the school should be thrown into the trash and these pads should be burned by the school.
- In cases where pads cannot be used for economic reasons, cloths are often used. In this case, the cloths used should be changed frequently, washed by boiling and ironed.
- Women should be informed about the conditions that require admission to the hospital during menstruation.
- In addition, it is important to apply to the hospital in cases such as premenstrual syndrome and dysmenorrhea, which can affect daily life and cause absenteeism from work / school.
- Access to menstrual materials is also important in the management of menstrual hygiene (MDWS, 2015).
- During the menstrual period, there may be toilets that are insufficient in terms of providing perineal hygiene and changing pads.
- One of the important issues in menstrual hygiene management is pain management. In the pain management part, information should be given about the importance of taking a warm bath, having a massage, applying heat, and slow tempo exercises.
- In addition, suggestions such as using deep breathing exercises when pain begins, consuming fibrous foods in the premenstrual period, increasing water intake, and listening to relaxing music facilitate pain management.

CONCLUSION

Menstrual hygiene management affects women at every stage of their life. For this reason, it is very important for the future of reproductive ability to start approp-

riate and effective information with menarche in adolescence. Telling adolescents what the menstrual cycle is, how to manage it, and the physiological period features enable the adolescent to take over the hygiene management and increase self-efficacy. Especially nurses and health professionals should provide accurate and reliable information to adolescents at the right time. In this way, it has a positive effect on social life in the long run, and it is predicted that it will contribute to the country's economy by reducing the rates of hospital admissions, as it reduces genital infections and reproductive system diseases.

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