

Menstrual Disturbance: A Medical and Social Problem in Adolescent Girls

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Article Information

Received: March 15, 2023

Accepted: April 13, 2023

Published: May 6, 2023

Keywords

*menstrual-ovarian cycle,
dysmenorrhea, girls,
hypermenorrhea,
oligomenorrhea,
hormonal disorders.*

ABSTRACT

This article presents data from a study of the results of scientific research by domestic and foreign scientists in recent years, devoted to the problem of pediatric gynecology, in particular the problems of various disorders of the menstrual-ovarian cycle in adolescence. The authors argue that there are many unresolved questions regarding the etiopathogenesis and treatment of these problems.

Relevance. In practical health care, menstrual disorders in the pubertal period are established only with severe clinical manifestations, and therefore there is no prevention and early treatment. There is no doubt that the timely and harmonious development of all parts of childhood and adolescence is a preparatory stage and predetermines the reproductive function of an adult woman in the near future [1,7]. Single studies are devoted to the study of the role of perinatal and postnatal risk factors in the development of the pathology of the formation of menstrual function (Kudinova E.G., 2007; Irgasheva S.U., 2008, Bashmakova N.V. et al., 2009; Ushakova G.A., Elgina S.I., 2010). All stages of the formation of the function of the reproductive system of a girl during the first 18 years of her life are preparation for future motherhood and largely determine the health of not only a woman, but also her offspring. In this regard, protecting the health of girls and adolescents is one of the primary tasks of the national policy of the state [2,22].

All over the world, one of the factors that worsen the quality of life of girls and adolescent girls is the pain syndrome that accompanies the physiological process - menstruation. According to WHO, the prevalence of menstrual pain in the structure of adolescent gynecological pathology

is extremely high, with about 15% of them characterizing menstrual pain as excruciating. Juvenile dysmenorrhea - painful menstruation in girls under 18 years of age in the absence of pelvic pathology is a common and often debilitating gynecological suffering, regardless of age or nationality. Despite its high prevalence, primary dysmenorrhea in girls is often misdiagnosed and even ignored by health professionals and by the girls themselves and their mothers, who may accept menstrual pain as a normal part of the menstrual cycle [3,24,25].

According to Kokolina V.F (2017), an important aspect in solving the problem of early correction of endocrine disorders is educational work. It, according to the author, should be aimed at informing parents about the need to go to medical institutions in case of an irregular menstrual cycle, after a year from menarche, as well as in the presence of indirect signs in the form of weight gain and / or increased hair growth. Given the hereditary nature of most endocrinopathies accompanied by hyperandrogenism, it is relevant to examine girls whose mothers had a history of endocrine infertility.[11]. As you know, infertility is one of the reasons for the dissolution of families and this is a factor in social ill-being. Hyperandrogenism, in the structure of the causes of infertility, occurs in almost every second woman, accounting for 42-48% of those examined. In adolescence, hyperandrogenism leads to menstrual dysfunction, in most cases combined with various cosmetic defects (excessive oiliness of the skin and hair, acne development, male-type hair, voice change, etc.). In addition to cosmetic problems, HA leads to psycho-emotional reactions that reduce the quality of life of a teenager and an adult woman, as well as social problems associated with restrictions in choosing a profession and employment. According to numerous studies, the reproductive potential of modern adolescent girls is low due to the high overall incidence. The incidence of somatic diseases among adolescent girls is 10-15% higher than among boys. Against the background of an increase in the frequency of somatic pathology, there is a tendency to an increase in gynecological morbidity [4,5]. Menstrual irregularities have recently been considered one of the most common diseases in the gynecology of children and adolescents; according to statistics, they occur in almost every third girl. There are usually two large groups of disorders: according to the type of hypo- and hypermenstrual syndromes [6].

In the structure of menstrual disorders in adolescent girls, primary dysmenorrhea was 78.3%; secondary - 6.6%; oligomenorrhea - 8.5%. Menorrhagia was found in 4.4%, primary and secondary amenorrhea in 1% and 1.6%, respectively. Dysmenorrhea is one of the most common gynecological diseases among juvenile girls. The frequency of dysmenorrhea in girls ranges from 43 to 90% [5,7].

The relevance of this problem is that, on the one hand, it is due to a significant increase in recent years in the frequency of gynecological pathologies among adolescent children, and on the other hand, their severe socio-demographic consequences, expressed in a decrease in the reproductive function of young people, the occurrence of anxiety and depressive disorders in This category of girls, which creates difficulties in the family and in the process of schooling, leads to social maladaptation of adolescents. [8]. In the group of surveyed adolescent girls with various menstrual dysfunctions, iron deficiency conditions, the presence of varying degrees of anemia in the mother, prematurity and late toxicosis of pregnancy, transferred in the anamnesis, are much more common as a causative factor. It is noteworthy that iron deficiency during pregnancy in mothers of adolescent girls was most often detected in the group of those examined with iron deficiency anemia. In the same group, artificial feeding was more common in history, which occurred in 23%. Of the additional factors that obviously have an impact, it should be

noted an increased incidence of cases of unbalanced and irregular nutrition, abuse of reduced diets in the form of deliberate starvation and adherence to various diets, insufficient consumption of meat products [9,26,27].

The cause of the pathology can be vitamin deficiency, hormonal disorders, mental trauma, infectious diseases, gynecological interventions, diseases. Genetic predisposition plays an important role in the development of menstrual irregularities. [10] The leading role of hyperandrogenic conditions in the structure of endocrine disorders in pubertal Armenian girls emphasizes the authenticity of this pathology for this ethnic group and indicates that the problem of endocrine infertility in the Armenian population originates already at puberty. Based on literature data, as well as on our own experience, we believe that the early elimination of endocrine disorders, already in the puberty period, will avoid problems with childbearing in the future [11]. According to O.V. Bulganina, E.E. Grigoryeva (2014), the results of determining the main risk factors for the development of menstrual dysfunction in adolescence made it possible to determine the significance of each factor separately and their total impact on the menstrual cycle. The most significant were damaging factors, such as pregnancy with complications, complications in childbirth, acute respiratory infections up to a year, childhood infections, frequent colds, chronic somatic pathology, increased physical and mental stress [12]. Girls born prematurely were more likely to have menstrual dysfunction during puberty [13].

Based on the theory of the occurrence of dysmenorrhea, which is based on a violation of the synthesis and metabolism of arachidonic acid and its metabolic products (prostaglandins, leukotrienes, thromboxanes, etc.), many researchers [7,9,14,16] consider the use of non-steroidal anti-inflammatory drugs (NSAIDs) sufficient in combination with antioxidants. In a number of pathogenetic mechanisms for the development of dysmenorrhea, there is a hypothesis about a decrease in the level of progesterone in the luteal phase of the menstrual cycle, in connection with which the high efficiency of the use of progestogens and combined oral contraceptives in the treatment of dysmenorrhea has been proven. The change in the ratio of sex steroids in the premenstrual period (estradiol and progesterone) is accompanied by a change in the rate of oxidation of free fatty acids; increased release of oxytocin, vasopressin, bradykinin, relaxin and biogenic amines in the myometrium; activation of the synthesis of cyclooxygenase and prostaglandin synthetase. These processes potentiate the formation and release of prostaglandins. Hyperprostaglandinemia contributes to hypoxia and ischemia of the myometrium, which leads to spastic contractions of the uterus, causing pain.

Uvarova E.V., Gaynova I.G. (2018) suggest that in the genesis of dysmenorrhea, an increase in the concentration of PG E2 against the background of reduced secretion of progesterone is of primary importance. For the occurrence of pain, it is necessary to irritate the nerve endings with biologically active substances from the group of kinins, prostaglandins, as well as K and Ca ions, which are normally inside the cells. During menstruation, the integrity of the cell membranes of the endometrium is disrupted and biologically active substances enter the intercellular space, irritating the nerve endings [14,15,16]. In girls with an irregular menstrual cycle, hormonal changes in the form of decreased thyroid function were detected in 16.9% of cases. In addition, most of them (63.6%) had the maximum prevalence of antibody carriage, which was the direct cause of thyroid insufficiency. A high prevalence of carriage of antibodies to the thyroid gland (31.3%) was also found in girls with normal levels of thyroid-stimulating hormone, which requires further dynamic monitoring of this category of patients in order to detect hypothyroidism early [2,17].

Based on the study conducted by E.A. Galushchenko, E.A. Lobanov, it was found that all variants of prolactin dysregulation are characterized by multifocal ovaries, various types of menstrual irregularities, and deviations in sexual development. Patients with prolactin dysregulation are a risk group and should be subject to dispensary observation by a juvenile gynecologist until the age of 18, followed by observation in an antenatal clinic [18]. Hypothalamic syndrome of puberty (HSPP), which is based on reversible functional disorders of the hypothalamus as the central structure that regulates all links of homeostasis, is characterized by a polymorphism of clinical manifestations in the form of metabolic disorders, neurovegetative and psychoemotional disorders, endocrine gland dysfunction.

In somatically healthy girls, the frequency of gynecological disorders is 1.5 times lower than in girls with extragenital pathology. Connective tissue dysplasia (CTD) refers to systemic disorders and is considered as one of the integral indicators of the health of children and adolescents. There is a clear connection between violations of the formation of the reproductive system and connective tissue dysplasia, trophological insufficiency due to malnutrition during pregnancy and childhood [20]. In girls with a disturbed menstrual cycle and changes in autonomic regulation, the intensity of the sympathetic division of the autonomic nervous system and borderline changes, according to daily monitoring of blood pressure, are observed already at the early stages of the development of the disease, when changes in the hormonal and biochemical status are still minimal and do not go beyond the reference range values. These changes can serve as criteria for classifying this cohort of patients as a high-risk group for the development of arterial hypertension and reproductive disorders [21].

Research by E.A. Stepanova, S.I. Kolesnikov showed the role of an unfavorable course of pregnancy and childbirth in the formation of the pathology of the reproductive system of girls in combination with connective tissue dysplasia. The most significant risk factors in their opinion are: the threat of abortion, premature birth, preeclampsia, asphyxia of the newborn. Connective tissue dysplasia in childhood and adolescence is combined with menstrual disorders, in particular with hypomenstrual syndrome. The authors suggest that metabolic and hormonal changes in adolescents cause menstrual dysfunction and exacerbate the course of systemic connective tissue dysplasia [22,23,32].

The results of the study Sh.M. Saduakasova, G.Zh. Zhatkanbayeva et al. (2014) showed that the use of nimesulide was effective in the treatment of dysmenorrhea. Due to its analgesic, anti-inflammatory action of the drug, pain relief was noted in all girls of this group with a minimum number of side effects (3.3%). The use of the drug dydrogesterone in the examined groups was also accompanied by a persistent therapeutic effect with relief of pain in 93.3% of girls by the 6th month of therapy and restoration of ovulatory menstrual cycles in the majority of patients 87.0%.

Conclusion: Summarizing the review of the available literature data, we can identify the most significant medical and social risk factors that contribute to the formation of menstrual irregularities in puberty girls. It should be noted that the etiopathogenetic aspects of the development of this pathology remain poorly covered. Research in this area, especially the study of candidate genes, their polymorphism will help to better reveal the essence of pathogenesis and the choice of optimal diagnostic and treatment methods, as well as the development of effective measures to prevent menstrual irregularities.

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