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Integrated Approach to the Treatment of Algodismenorhea in Adolescent Girls: Views of Avicenna and Modernity

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ABSTRACT

This article presents the results of the use of the herbal medicine Ginger, based on the teachings of Avicenna and evidence-based medicine.Adolescent girls from 11 to 17 years old with dysmenorrhea accompanied by cyclic pains of varying degrees were examined. Based on the anamnesis and clinical examination, the prevalence of various menstrual dysfunctions was revealed, the proportion of which was 32.2%. The results show the effectiveness of the treatment of this pathology with the inclusion of a phytopreparation in complex therapy.

Relevance. Dysmenorrhea is a cyclic pain in the pelvic region associated with menstruation and manifested with a symptom complex of disorders, detected in 43-90% of adolescents. In 5-15% of patients, the intensity of pathological manifestations leads to a monthly disruption of normal activity for 1-3 days, missed classes or work. Pathology is manifested by pain in the lower abdomen of a different (acute, aching, arching, twitching, cramping, etc.) nature, sometimes with irradiation to neighboring organs, preceding or coinciding in time with the onset of menstruation, as well as a variety of vegetative-vascular, metabolic endocrine, psychoemotional disorders[2,9,12].

According to WHO, the prevalence of menstrual pain in the structure of gynecological pathology of adolescents is extremely high, and almost 17% of this number characterize the pain syndrome as painful. 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. Uvarova E.V., Gaynova I.G. (2015) suggest that in the genesis of dysmenorrhea, an increase in the concentration of prostaglandin E2 against the background of reduced secretion of progesterone is of primary importance. [3,5,11,14]. Multicenter randomized studies in more than 1400 patients have shown that nimesulide is significantly superior to other non-steroidal anti-inflammatory drugs (NSAID) in terms of the effectiveness of relieving symptoms of dysmenorrhea.[4,7,10].

Combined oral contraceptives (COCs) are used with great efficiency, which eliminate dysmenorrhea in about 80% of patients. Achieving this effect is associated with a decrease in the thickness of the endometrium and, accordingly, the amount of prostaglandins. These drugs provide temporary pain relief. [6,8].

The search for effective treatments for dysmenorrhea is still ongoing. Numerous studies based on clinical trials and animal models have shown that ginger and its components play an important role in disease prevention through the modulation of genetic and metabolic activity. The following properties of gingerol have also been reported: antitumor, anti-inflammatory, antifungal, antioxidant, neuroprotective and gastroprotective properties. A double-blind, randomized, placebo-controlled study showed that oral ginger capsules can improve sexual function and quality of life in women of reproductive age within four weeks [13]. An important study has proven the antimicrobial activity of ginger against E coli, Salmonella typhi, Bacillus subtilis, as well as against the fungus Candida albicans. Ginger rhizome is used as an analgesic, sedative and immunomodulatory agent, as well as in many branches of medicine. Numerous scientific studies are currently underway to explore other properties of ginger. (Cochrane evidence 2016, March 22, www.cochrane.org, www.elibrary.ru).

Purpose of the study: To study the prevalence and structure of menstrual dysfunction among adolescent girls in the Bukhara region and the choice of the optimal method of treating algomenorrhea based on the teachings of Avicenna and the principles of evidence-based medicine.

Material and methods: The study included adolescents from 11 to 17 years old (with the permission of their parents) with various types of menstrual dysfunction. According to the nature of the violations, they were divided into 2 groups, where group 1A consisted of 105 girls with hypomenstrual syndrome (manifested by short, rare and scanty menstrual flow), and group 1 B consisted of 87 adolescent girls with hypermenstrual syndrome (manifested by prolonged, frequent and heavy menstrual secretions). In both groups, almost every third girl had complaints of painful menstruation of various localization and intensity. The control group consisted of 80 healthy, regular menstruating girls of the same age. All adolescent girls underwent a questionnaire-questionnaire method, and, if necessary, clinical and laboratory-instrumental methods of examination (ultrasound of the uterus and appendages, general and biochemical blood tests, consultation of narrow specialists).

The average age was 14.1±0.9 years in the control group, 13.8±0.7 years in group 1 A, and 14.6±0.8 years in group 1 B. The onset of menarche was observed in group 1A at 12.2±0.7 years and in group 1B at 12.4±0.2 years. In girls of the control group, menarche occurred on average at the age of 12.6±0.4 years.

Results and their discussion: Based on the anamnesis and clinical examination conducted in adolescent girls, the prevalence of various menstrual dysfunctions was revealed, the proportion of which was 32.2%. Every third patient complained of any subjective sensations during menstruation and / or disorders of the rhythm, duration, intensity of menstruation, as well as deviations from the normal amount of blood lost during one cycle (scanty or abundant).

Figure 1 shows the nature of the course of menstrual function in the examined girls.

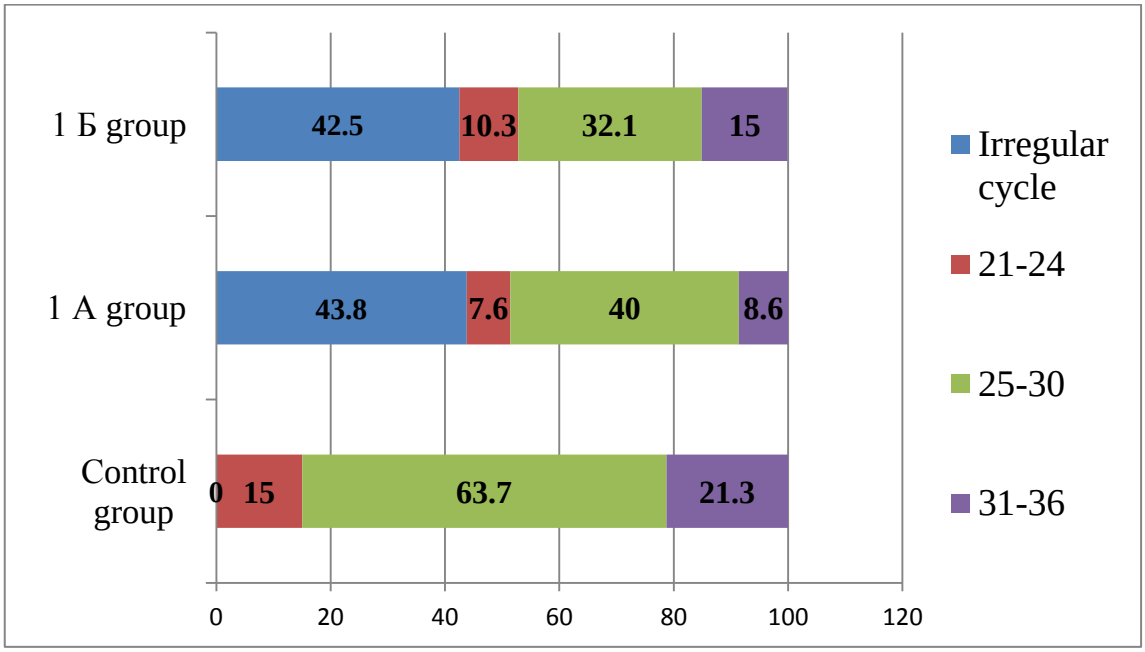

Figure 1. The duration and regularity of the menstrual cycle in adolescent girls

As can be seen from the figure, only 57.5% of girls in group 1 A and 56.2% of girls in group 1 had a regular menstrual cycle. The remaining adolescent girls from these groups had an irregular rhythm, which was characterized by a chaotic sequence of menstruation (Fig. 2).

In terms of the average duration of the menstrual cycle in girls with a regular rhythm in the main groups, there were no significant differences from the indicators of the control group. In group 1A, the average duration of the menstrual cycle was 27.6 ± 0.2 days, in group 1B 28.1 ± 0.3 days, while in the control group this figure was 27.5 ± 0.3 days.

And there was a significant difference in the average duration of menstrual bleeding in the parameters of the examined groups. In the control group, menstrual days lasted an average of 4.5 ± 0.1 days, while in the group of girls with hypomenstrual syndrome (group 1A), the duration averaged 2.2 ± 0.3. Adolescent girls of group 1B had complaints of prolonged and heavy menstruation, which lasted 8.7 ± 0.6 days on average (Fig. 2).

The duration of menstrual days in the examined

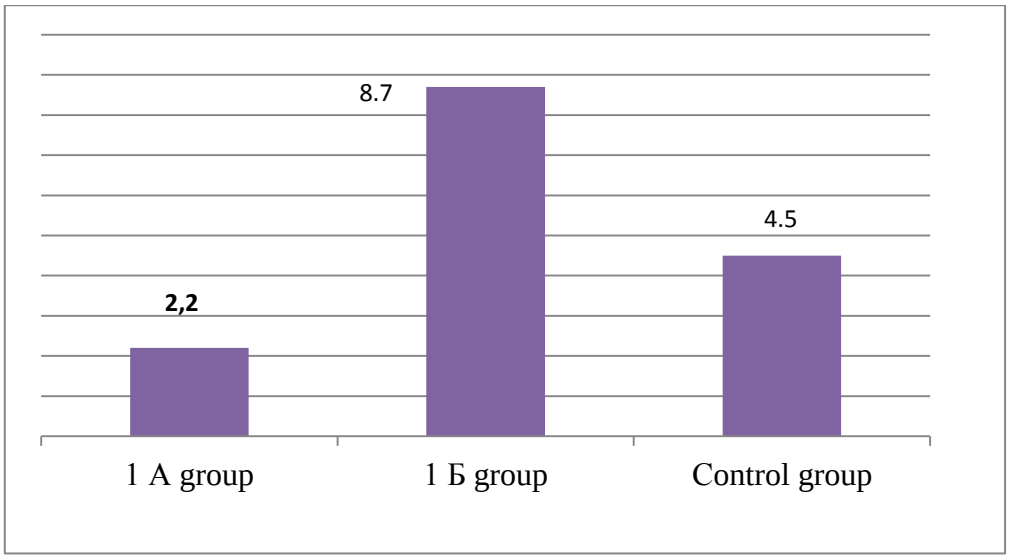

Figure 2. Length of menstrual days in adolescent girls

From the anamnesis, it was clarified that in the structure of menstrual dysfunction, the leading position was occupied by painful menstruation - algomenorrhea, which amounted to 33.6% among the adolescents surveyed. Based on the pathogenesis of algomenorrhea, we used herbal remedies containing prostaglandin inhibitors, as well as having anti-inflammatory and soothing properties. For this purpose, in our study we used **Ginger** (lat. **Zīngiberofficināle**), a perennial herbaceous plant; type species of the genus Ginger of the family Ginger (Zingiberaceae). The usefulness of ginger lies in the content of about 400 natural compounds, including micro and macro elements: calcium, phosphorus, copper, selenium, iron, zinc. Vitamins are represented by groups B, K, E. Ginger also contains: 80% water, 15% carbohydrates, fiber, ash; amino acids - tryptophan, methionine, leucine; essential oil; fatty acids - caprylic, linoleic, oleic; curcumin is a natural antibiotic and immunomodulator. Energy value - 15 kcal / 100 g. Teenage girls were prescribed ginger in the form of infusion, tincture, powder 3 times a day during menstrual days. In the process of studying the works of Avicenna, it was revealed that the scientist widely used **Zanjabil** (ginger) in his practice as part of a complex drug, as an analgesic during menstrual pain, and more precisely as part of "Kattaqaftorg'on" - this remedy relieves pain in women and prevents miscarriage. It will help with all diseases (Canon of Medicine, Chapter V, 52-53-pp) [1].

Ginger in our study was used in the form of infusion, tincture, powder. Also used compresses to relieve headaches and pelvic pain.Ginger essential oil, a well-known aromatherapy agent, has been used in teenage girls with psycho-emotional disorders. The burning taste helped to increase appetite and improve digestion. Clinical symptoms accompanying dysmenorrhea were assessed after 3, 6.9 or more menstrual cycles. The following table shows the dynamic indicators of the clinical picture in adolescent girls with dysmenorrhea (Table 1).

Table 1. Clinical manifestations of dysmenorrhea in the dynamics of treatment in the examined adolescent girls

Symptoms	Initial	After 3 cycles	After6cycles	After 9 cyclesormore
Decreasedabilitytowork	Meaningful	Moderate	Recovery	Fullrecovery
Pain	Strong	Tolerable	Shortterm/ insignificant	Absence
Emotionalbehavior	Changeable, with episodes of tearfulness	Changeable	Adequate	Adequate
Lackofappetite	Expressed	Moderate	Restorationof appetite	A goodappetite
Headache/ Dizziness	Strong	Moderate	Absence	Absence
Disorders of the gastrointestinal tract (GIT)	Bloating, nausea, vomiting, dry mouth	Moderate	Normalizatio n	Normalization
Fainting	Frequent	Rare	Single	Absence
Disorders of the autonomic nervous system (ANS)	Sweating, chills, feeling of "cotton legs"	moderateswe ating	Normalizatio nof ANS	Normalization of ANS

The effectiveness of the drug was evaluated in the dynamics of its use during menstruation for at least three cycles. The evaluation criteria were: the level of rehabilitation, the intensity of pain, the severity of vegetative-vascular and psycho-emotional disorders. An interesting fact is that every fourth patient (26.1%) indicates one of the complaints listed in the table as the leading symptom, which worries the patient more than pain. In the dynamics of observation, the ability to work was restored in 42.7% of girls after 3 cycles and 93.3% after 6 cycles. Pain became

moderate after 3 cycles in 56.4% of adolescent girls. And after 6 cycles, 90.2% of those examined with algomenorrhea noted the intensity of pain as insignificant.

Thus, during the use of the phytopreparation Ginger in combination with traditional therapy, a positive trend in the treatment of clinical manifestations of dysmenorrhea was observed.

Conclusion: The healing properties of ginger were manifested by the extinction of psychoemotional, vegetovascular disorders, as well as pain. This is primarily due to the large amount of antioxidants contained in the phytopreparation, which play an important role in reducing lipid oxidation and inhibiting the pathogenesis of the disease. The use of this drug as part of the complex therapy of dysmenorrhea ultimately contributed to an increase in working capacity and an improvement in the quality of life of adolescents.

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