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Risk Factors, Clinical Characteristics Juvenile Dysmenorrhea

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Abstract: Dysmenorrhea is a common pathological condition characterized by painful menstruation. From modern neurophysiological positions, it is referred to as menstrual pain syndrome, which is more legitimate, since it can designate the entire wide range of neurovegetative, metabolic-endocrine, and psycho-emotional abnormalities of the menstruation process, accompanied by pain in the lower abdomen [4,7]. In accordance with this definition, dysmenorrhea is a signal of disorders that have developed in the systems that provide and control the process of endometrial rejection [9]. In the ICD, painful menstruation is defined by the term dysmenorrhea, and in Russian-language reference books the term algomenorrhea is still used, implying painful menstruation that does not have an organic cause [7]. Thus, the term algomenorrhea or dysmenorrhea by itself, based on the above definition, is used in primary dysmenorrhea. However, it should be noted that quite often painful periods are a secondary manifestation of a number of pathological conditions [3,6,9]. It should be taken into account that painful menstruation in most cases turns out to be only one of the most striking symptoms of gynecological, somatic, or psychosomatic diseases, and sometimes their combination [1,4,8]. GA Savitsky describes the pain as a conscious unpleasant feeling, with many pathophysiological reactions in all vital systems of the body, which can cause the suffering of varying degrees of severity - from tolerable to unbearable, up to personality disintegration.

Keywords: gynecological pathology, primary dysmenorrhea, juvenile dysmenorrhea, connective tissue dysplasia.

Introduction

Primary dysmenorrhea occupies a leading position in the structure of adolescent

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gynecological pathology - at puberty, the incidence of the disease ranges from 0.2 to 90%. According to modern publications, the frequency of juvenile dysmenorrhea ranges from 5 to 90%, which most likely reflects the subjective approach of doctors to assessing pain [1,2].

Abd.EL-Mawgod M.M. et al. (2016), studying the epidemiology of dysmenorrhea in Saudi Arabia, surveyed 344 students, among whom the prevalence of dysmenorrhea was 74.4%. Fernández-Martínez E, et al. (2018) found a 74.8% prevalence of primary dysmenorrhea in a cross-sectional study of 258 female university students in Spain, compared to 85.1% among Palestinian female students, a group of researchers from Italy led by De Sanctis V (2016), studying dysmenorrhea in adolescents found 50 studies that met the requested inclusion criteria and concluded that the prevalence of dysmenorrhea was 34% to 94%, suggesting a variety of diagnostic criteria and the subjective nature of symptoms.

For some contingents (students of colleges, lyceums, university students) this figure reaches 17-22%. According to Jobava E.M. (2014), among adolescents, dysmenorrhea occurs in 43-90%, while the frequency of occurrence increases with gynecological age and reaches a peak by the 5th year of menarche. In about 10% of these patients, the pain is so intense that during menstruation they become unable to work, cannot do their daily activities, and feel very unwell.

Materials and Methods

In order to identify the most significant risk factors for the development of juvenile dysmenorrhea, we analyzed 230 questionnaires completed by girls with dysmenorrhea and their mothers. Primary dysmenorrhea was established after clarification of complaints and a differential test with a non-steroidal anti-inflammatory drug - Nimesulide. Preventive examination of 1,512 girls from different districts of the Andijan region showed that the frequency of juvenile dysmenorrhea is 42.8%.

The results of the survey were compared with those of 50 women, whose daughters, aged 13 to 18, were healthy (control group).

The questions in the questionnaires were drawn up taking into account all the necessary data: passport, anamnestic, physical development data at the time of the survey and were divided into several blocks: a) socio-economic living conditions; b) the state of the reproductive function of the mother of a girl with juvenile dysmenorrhea, the course of pregnancy and childbirth with this child; c) the presence of chronic diseases in her, d) its development in the first year of life e) the development of the girl until puberty f) the presence of signs of connective tissue dysplasia. The block of socio-economic issues registered the living conditions for the last 5-10 years, which reflected the conditions and economic condition of the family.

Statistical processing and verification of the results were based on determining the equality of mathematical expectations of random variables by evaluating the Student's test and the $\chi 2$ homogeneity criterion, as well as calculating the relative risk (RR) of the influence of each factor with a confidence interval of 95%. After processing the results obtained, there are

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few informative features, i.e. definitions that did not differ significantly in frequency were excluded.

Results and Discussion

The analysis of the frequency of the remaining signs made it possible to identify the most significant risk factors for the development of primary dysmenorrhea (Tables 1-3).

Table 1

Frequency of risk factors, taking into account the socio-economic conditions of life in juvenile dysmenorrhea and in the group of healthy girls

Risk factor	Juvenile dysmenorrhea, n=230	Healthy, n=50	Relative risk	P
Place of residence:				
- city	97	31	0,70	<0,05
- rural area	126	19	1,48	<0,05
Material and living conditions:				
- satisfactory	84	29	0,64	<0,05
- unsatisfactory	141	21	1,50	<0,05
Childbirth at 30 years of age and older	105	7	2,09	<0,001
Mother's education:				
- average	125	2	8,75	<0,001
- secondary specialized	104	8	2,90	<0,001
- higher	43	28	0,69	<0,001
Length of the mother's working day:				
- 8-9 hours and more	110	12	2,05	<0,01
- 5-6 hours and more	37	32	0,16	<0,001
Mother's work at night	38	6	1,43	>0,05
Family's monthly per capita income:				
- less than 1 living wage	93	3	6,90	<0,001
- from 1 to 2 living wages	67	8	1,88	<0,05

When analyzing the socio-economic conditions of life, it was revealed that the factor that increases the risk of the formation of primary dysmenorrhea in adolescents is the girl's residence in a rural area (RR = 1.48; P <0.05). In families where material and living conditions were unsatisfactory, the relative risk of formation was RR = 1.5; (P <0.05). The factor leading

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to the formation of dysmenorrhea in girls is the age of the mother at the time of the birth of her daughter. Despite the fact that the average age of mothers in both groups at childbirth was within 24-25 years, childbirth over 30 years of age and later among mothers of sick girls became a risk factor for developing JUD (RR = 2.09; P <0.001). At the same time, the proportion of late primiparous in both groups did not differ significantly.

The education in the volume of secondary school had the mothers of girls in the main group had a relative risk of developing dysmenorrhea RR = 8.75; (P <0.001). The presence of secondary specialized education in the mother weakened the risk of this pathology in the daughter by more than 3 times (RR = 2.90). Consequently, the level of education of the mother seriously influenced the development of dysmenorrhea in adolescents.

The characteristics of the mother's work activity also increased the risk of developing primary dysmenorrhea in her daughters. Thus, in women who were employed full-time at work, the risk of development was RR = 2.05 (P <0.01). A mother's daily stay at work for less than 5-6 hours reduced the risk of dysmenorrhea in her daughter by more than 12 times (RR = 0.16). On the contrary, the presence of night shifts in the mother's work schedule, or her prolonged absence due to working abroad, increased the risk of this pathology in girls (RR = 1.43).

Among the significant risk factors for dysmenorrhea, there was also a low level of material support for the family. Thus, a material income not exceeding one subsistence minimum per person per month, where a girl suffers from dysmenorrhea, was recorded much more often, amounting to RR = 6.90 (P <0.001).

The most unfavorable effect on the formation of primary dysmenorrhea in a girl was the mother's passive smoking (frequent presence of the mother in the same room with smokers during pregnancy) (RR = 2.55).

The hereditary predisposition to the development of primary dysmenorrhea was confirmed by the fact of a significant frequency of primary dysmenorrhea in mothers of the main group (RR = 2.97, P <0.01) (Table 2). The presence of another gynecological pathology in the mother did not significantly affect the possibility of developing primary dysmenorrhea in her daughter.

Table 2

Frequency of risk factors, taking into account the presence of chronic diseases and the state of reproductive function in mothers of girls with juvenile dysmenorrhea

Risk factor	Juvenile dysmenorrhea, n=230	Healthy, n=50	Relative risk	P
Primary dysmenorrhea in the mother	61	3	4,52	<0,01
The mother has chronic diseases				

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Anemia	85	7	2,70	<0,01
Urinary tract infection	90	3	6,67	<0,001
The course of pregnancy and childbirth with this child				
Complications of pregnancy:				
- toxicosis of the first half of pregnancy	90	1	20,00	<0,001
- threat of interruption	54	4	3,04	<0,05
- gestational hypertension	40	2	8,98	<0,05
- premature discharge of amniotic fluid	54	3	8,15	<0,01
Complications of childbirth:				
- abnormality of labor	23	1	5,00	>0,05
- premature birth	40	3	2,98	<0,01

It should be noted that if a mother suffers from a urinary tract infection before and during pregnancy, the risk of her daughter developing JD is RR = 6.67, which is significantly significant concerning the group of healthy girls (P <0.001). The RR for the development of JUD also sharply increased in the presence of anemia in mothers during pregnancy, RR = 2.7 (P <0.01).

Some complications of the gestational period, such as toxicosis of the first half of pregnant women (RR = 20.0, P <0.001), threat of termination RR = (3.04, P <0.05), gestational hypertension (RR = 8.91, P < 0.05) and premature rupture of membranes (RR = 8.15, P <0.01) were also reflected in the incidence of primary dysmenorrhea in adolescents.

Complications in childbirth also harmed the formation of adolescents: labor anomalies (RR = 5, P> 0.05) and premature birth (RR = 2.98, P <0.01), contributing to the risk of juvenile dysmenorrhea.

The formation of dysmenorrhea in girls was influenced by the number of births in the mother: this pathology was more common in children who were born as a result of third (RR = 5.15, P <0.01) and fourth (RR = 24.44, P <0.001) and fifth (RR = 10.78, P <0.05) births (Table 3). Low birth weight (less than 3000 g) increased the risk of juvenile dysmenorrhea, as the RR was RR = 10.21 (P <0.001). The duration of breastfeeding for less than six months also influenced the development of painful menstruation in the girl later (RR = 13.04; p <0.001). With continued breastfeeding up to 12 months. the child's life, the chance of developing dysmenorrhea sharply decreased (RR = 3.64; p <0.001).

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Along with this, the development of juvenile dysmenorrhea in girls was influenced by the postnatal development of the child, the transferred infectious and somatic diseases. In particular, the chance of developing JUD with previous childhood infections was RR = 6.43 (P <0.001), and in the presence of a chronic inflammatory focus in the form of chronic tonsillitis, the chance indicator was RR = 6.43 (P <0.001).

Table 3

Frequency of risk factors, taking into account the conditions of development of a child at 1 year of age in girls with juvenile dysmenorrhea

Risk factor	Juvenile dysmenorrhea, n=230	Healthy, n=50	Relative risk	P
Family relationships:				
- well-off	93	38	0,55	<0,001
- disadvantaged	131	12	2,44	<0,001
The serial number of the child in the family:				
First	35	27	0,29	<0,001
Second	42	16	0,58	>0,05
Third	69	6	5,15	<0,01
Forth	54	1	24,44	<0,001
Fifth	24	0	10,78	<0,05
Birth weight less than 3000 g	138	3	10,24	<0,001
Duration of breastfeeding				
- less than 6 months	117	2	13,04	<0,001
- up to 12 months	82	5	3,64	<0,001
Past illnesses				
Angina	57	2	6,43	<0,001
Childhood infections	86	3	6,43	<0,001

The elucidation of risk factors in the development of a girl until puberty revealed that the late onset of menarche in 54 (24.3%) girls aged 15-16 years significantly increased the chance of developing JUD, while the relative risk was RR = 8.15 (p <0, 01), and 26 (11.4%) girls aged 16-17 had the highest relative risk of developing JUD (RR = 11.50; p <0.05), relative to the group of girls with normal menstruation. If the girls had additional loads in addition to

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training sessions in the form of visits to sports or other sections, the incidence of JD increased almost 3-plus times (RR = 9.70; p <0.01).

It should be noted that 51 (22.8%) girls had a combination of risk factors with each other, which significantly increased the risk of juvenile dysmenorrhea, especially if the girl went to college or high school (RR = 3.01; p < 0.001) and had various conflicts in the family (RR = 2.96; p <0.001) or at the place of study (RR = 1.65; p> 0.05), and also attended additional classes with a tutor (RR = 2, 86; p> 0.05).

Thus, with the development of a girl up to puberty, the greatest risk of JD formation is observed in the presence of an age factor of the onset of menarche at 16-17 years of age and the presence of additional mental or psychological stress.

The frequency of risk factors, taking into account the presence of signs of CTD in girls with JUD before puberty and in the group of healthy girls, is presented in Table 4.

Table 4

Frequency of risk factors, taking into account the presence of signs of CTD in girls with JUD and the group of healthy girls

Risk factor	Juvenile dysmenorrhea, n=230	Healthy, n=50	Relative risk	P
Body weight deficit	163	4	9,11	<0,001
Propensity to allergic reactions	130	2	14,46	<0,001
Violation of the evacuation function of the gastrointestinal tract	66	3	4,88	<0,001
The tendency to easy bruising	104	2	11,61	<0,001
Vegetovascular dysfunction	157	3	11,67	<0,001
Flattening of the arch of the foot	139	4	7,77	<0,001
Joint hypermobility, the tendency to dislocation, sprains of the ligamentous apparatus	82	2	9,11	<0,001
Myopia of varying degrees	61	3	4,52	<0,01

As can be seen from the presented material, the presence of these signs had a significant impact on the development of JUD. In particular, in the presence of such signs as a tendency to allergic reactions, a slight tendency to bruising and vegetative-vascular dysfunctions, the

relative risk of developing JUD was RR = 14.46 (p <0.001), RR = 11.61 (p <0.001) and RR = 11.675 (p <0.001). In the presence of such signs as body weight deficit, joint hypermobility, flattening of the arch of the foot, RR was RR = 9.11 (p <0.001), RR = 9.11 (p <0.001) and RR = 7.77 (p <0.001), in the presence of such external phenes as myopia, the relative risk was RR = 4.52 (p <0.01) and internal phenes - a violation of the evacuation function of the gastrointestinal tract - RR = 4.88 (p <0.01).

Consequently, the presence of signs of DST in girls increased the risk of juvenile dysplasia, which must be taken into account when carrying out treatment and prophylactic measures.

Conclusion

Consequently, the risk factors for the development of primary dysmenorrhea in girls are due to the presence of the following conditions in the mother: education no more than the volume of secondary school; low level of social security, working hours more than 8-9 hours; the presence of primary dysmenorrhea; the presence of anemia before the onset of the observed pregnancy; age at birth of a child 30 years and older; the high birth rate in the past; high incidence of infectious gestational complications; the duration of lactation is less than six months and the presence of signs of CTD in girls with primary dysmenorrhea in the form of underweight, a tendency to allergic reactions and easy bruising, hypermobility of joints with a tendency to dislocation, sprains of the ligamentous apparatus, the presence of vegetative-vascular reactions.

References

1. Mezhevitinova E.A., Akopyan A.N. Magnesium deficiency states in gynecological practice: clinical assessment and methods of correction. // Questions of gynecology, obstetrics, and perinatology. - 2017, - Volume 6, No. 4. - S. 7-12.
2. Mikhailuta M. A., Manaschuk S. L., Chorna O.O. Hormonal and metabolic state of adolescent girls with dysmenorrhea syndrome. Topical issues of pediatrics, obstetrics, and gynecology. - 2015. - No. 2. - C. 26-30.
3. Oltinoy Yakubova, Khabibahon Negmatshaeva, Dilfuzahon Mamarasulova Role of col1a1 and g2046t genes in uzbeks with juvenile dysmenorrhea in the presence of criteria for undifferentiated connective tissue dysplasia/ Journal of Critical Reviews ISSN- 2394-5125 Vol 7, Issue 2, 2020/ DOI: http://dx.doi.org/10.31838/jcr.07.02.75
4. Abu Helwa HA, Mitaeb AA, Al-Hamshri S, Sweileh WM. Prevalence of dysmenorrhea and predictors of its pain intensity among Palestinian female university students. BMC Womens Health. 18(1):18. DOI: 10.1186/S12905-018-0516-1. 2018 Jan 15.
5. Fakhriddin Abdikarimov, Kuralbay Navruzov. Mathematic modeling of pulsation movement of blood in large arteries. European Journal of Molecular & Clinical Medicine, 2020, Volume 7, Issue 8, pp.1438-1444.
6. Armour M, Smith CA, Steel KA, Macmillan F. The effectiveness of self-care and lifestyle interventions in primary dysmenorrhea: a systematic review and meta-analysis.BMC Complement Altern Med. 2019 Jan 17; 19(1):22.
7. Behmanesh E, Delavar MA, Kamalinejad M, Khafri S, Shirafkan H, Mozaffarpur SA. Effect of

eryngo (Eryngium caucasicum Trautv) on primary dysmenorrhea: A randomized, double-blind, placebo-controlled study. Taiwan J Obstet Gynecol. 2019 Mar;58(2):227-233.

8. Daniels SE, Paredes-Diaz A, An R, Centofanti R, Tajaddini A. Significant, long-lasting pain relief in primary dysmenorrhea with low-dose naproxen sodium ompared with acetaminophen: a double-blind, randomized, single-dose, crossover study. Curr Med Res Opin. 2019 Aug 28:1-9.
9. Espin Lopez L., Carrillo Verdejo E., Gonzalez Javier F., Ordonana Martin J. R., Gomez-Amor J. Incidence of anovulatory menstrual cycles among dysmenorrheic and non-non-dysmenorrheic women: effects on symptomatology and mood// Mol Pain. 2018 Jan-Dec;14:1744806918770320. 2018 Mar 27.
10. Fakhriddin Abdikarimov, Kuralbay Navruzov. Mathematical method of calculating the volume of the cavities of the heart ventricles according to echocardiography. European Journal of Molecular & Clinical Medicine, 2020, Volume 7, Issue 8, pp. 1427-1431.
11. Hu NJ, Liu YQ, Zhao MY, Wang P, Wu GW, Hu SQ, Sun JJ, Wang YF, Zhang Z, Ma LX, Zhu J. Influence of the Intensity, Components, and Spreading of the Deqi Sensation on the Analgesic Effect of SP6 Needling in Primary Dysmenorrhea Patients: A Secondary Analysis of a Randomised Controlled Trial. Evid Based Complement Alternat Med. 2019 May 16;2019:6462576