

THE RESULTS OF ANAMNESTIC EXAMINATION OF CHILDREN 1-3 YEARS OLD BORN PREMATURELY WITH EXTREMELY LOW, VERY LOW AND LOW BODY WEIGHT

¹N.N.Ergasheva, ²G.I.Yuldasheva

^{1,2}Tashkent Pediatric Medical Institute

<https://doi.org/10.5281/zenodo.7671039>

Abstract. *This article is dedicated to the study of the consequences of prematurity in early childhood. In accordance with the data of scientific literature, it follows that the main reasons for the birth of children with ELBW, VLBW and LBW are the age of the woman in labor (under 18 years and over 35 years), aggravated obstetric and gynecological anamnesis, extragenital pathologies of the mother, etc.*

Keywords: *prematurity, extremely low body weight, very low body weight, gestational age, preterm birth.*

Introduction. In accordance with the data of scientific literature, it follows that the main reasons for the birth of children with ELBW, VLBW and LBW are the age of the woman in labor (under 18 years and over 35 years), aggravated obstetric and gynecological anamnesis, extragenital pathologies of the mother, the use of ART / IVF, multiple births pregnancy, deviations in the course of pregnancy, infectious processes (of the urogenital tract, as well as infections dangerous for intrauterine and intranatal infectioning of the fetus) [6].

Purpose of the study. Collection of anamnestic data of mothers of premature babies and study of risk factors for the birth of premature babies. Also the study of the consequences of prematurity in early childhood.

Materials and methods of research. To achieve this goal, mothers of 90 children (main group) born prematurely were examined. All parents were treated in the neonatal pathology department of the 1st City Clinical Children's Hospital, in the City Perinatal Center. An outpatient examination of children was also carried out in a 17-family clinic in 2019-2021. The control group included mothers of 30 examined children of the same age.

Results and discussion. In our study, a burdened obstetric and gynecological history was observed in n=15 (16.6%) mothers whose children were born with ELBW, in n=30 (33.3%) - with VLBW, and in n=45 (50%) - with LBW. When assessing mothers using the "Scale for the optimal course of pregnancy" and the "Scale for the optimal course of childbirth", adapted by A.B. Palchik [2017], revealed significant differences compared to the control group. At the same time, there were no significant differences between the three groups of mothers in the assessments on the scales for the optimal course of pregnancy and childbirth (Table 1).

Table 1
Assessments on the scales of the optimal course of pregnancy and childbirth in groups of mothers of children born with ELBW, VLBW, LBW, and the control group

<i>Scales</i>	<i>Assessments on scales in the groups of examined</i>
---------------	--

	Group I ELBW, n =15	Group II VLBW, n =30	Group III LBW, n=45	Control group, n =30
Pregnancy optimality scale	28,53 ± 1,26	29,03 ± 0,69	27,36 ± 0,77*	30,30 ± 0,39
Scale of the optimal course of labor	10,2 ± 0,7*	10,4 ± 0,8*	11,3 ± 0,7*	17,5 ± 0,2

Significance of differences with the control group: * p < 0,05

The age of the mothers of the examined children at the time of delivery ranged from 17 to 47 years, on average, 29.9 ± 7.5 years (no significant differences between the main group and the control group, $p > 0.05$). At the same time, in the 1st group (children with ELBW), the average age of mothers at the time of birth was 30.1 ± 8.4 years, in the 2nd (children with VLBW) - 28.9 ± 7.7 years and in 3- th (children with LBW) - 26 ± 6.0 years. In the control group, the average age of mothers at the time of delivery was 28.4 ± 6.1 years, while there was only one (3.3%) woman in the age group of 35-44 years and there were no women 45 years and older. The proportion of women in labor aged 35-44 years was 20.0% in the 1st group, 13.3% in the 2nd, 8.9% in the 3rd, and 6.7% - of those at 45 years and older respectively, there were none in the LBW and control groups. Indicators for the serial number of this pregnancy and childbirth in mothers of children born prematurely and in the control group are given in Table 2. The percentage of children born from the 1st pregnancy in the control group was 13.3%. In the group with ELBW it was 40.0%, with VLBW - 33.3%, with LBW - 44.4%. The proportion of 2nd and 3rd pregnancies in a row were quite close in mothers of all groups. Compared with the control group (67.7%), there was a trend towards a higher incidence of the 4th and higher serial number of pregnancy: in the 1st group - 20.0%, in the 2nd - 20.0%, in 3rd - 15.6%, control - 10%.

Table 2

Age of mothers during pregnancy, serial number of real pregnancy in mothers of children born with ELBW, VLBW, LBW and in the control group.

Characteristics	Patients groups						Control group, n=30	
	ELBW, n = 15		VLBW, n = 30		LBW, n = 45			
	n	%	n	%	n	%	n	%
Mother's age during pregnancy								
Under 18	1	6,7	—	—	2	4,4	—	—
19-34 years of age	10	66,7	24	80	39	86,7	25	83,3
35-44 years of age	3	20	4	13,3	4	8,9	5	16,7
45 and older	1	6,7	2	6,7	—	—	—	—
The number of pregnancy								
first	6	40	10	33,3	20	44,4	4	13,3
second	3	20	12	40	11	24,4	20	66,7
third	3	20	2	6,7	7	15,6	3	10

fourth and more	3	20	6	20	7	15,6	3	10
The number of labor								
first	8	61,1	15	58,3		52,0	13	43,3
second	4	27,8	9	30,6	15	30,0	12	40
3 and more	3	11,1	6	11,1	8	16,0	5	16,7
1st labor at the age of								
35-44 years	1	6,7	2	6,7	5	11,1	—	—
45 years and older	—	—	—	—	1	2,2	—	—

At the age of 35 and older, there were no primiparous mothers in the control group, while in the groups with ELBW 1 episode (6.7%), with VLBW - 2 (6.7%), and with LBW - 5 (11.1%), and at the age of 45 years and older, only in the group with LBW- 1 (2.2%) (Table 2).

A burdened obstetric and gynecological history in the main group was observed in 90 cases, of which in the group with ELBW — in 16.6% (n=15) of mothers, with VLBW — in 33.3% (n=30), with LBW — in 50% (n=45) women.

In all mothers of the studied groups, pregnancy occurred naturally, only in the control group, assisted reproductive technologies were used in 3.3% of cases (Table 3).

Table 3

Obstetric anamnesis of mothers of children born with ELBW, VLBW, LBW, and control groups.

Conditions and diseases	Patients groups							
	ELBW, n=15		VLBW n =30		LBW, n=45		Control group, n =30	
	n	%	n	%	n	%	n	%
Natural Pregnancy	15	100	30	100	45	100	29	96,7
Pregnancy with the use of auxiliary reproductive technologies	—	—	—	—	—	—	1	3,3
Multiple pregnancy	2	13,3	9	30	7	15,6	1	—
Bicornuate uterus	1	6,7	2	6,7	1	2,2	—	—
Uterine fibroids	—	—	3	10	3	6,7	—	—
Caesarian section	15	100	26	86,7	39	86,7	2	6,7
Previous miscarriage, regressive pregnancy	2	13,3	5	16,7	5	11,1	1	3,3
Previous induced abortion	—	—	1	3,3	2	4,4	—	—

Habitual miscarriage	4	26,7	3	10	3	6,7	1	3,3
----------------------	---	------	---	----	---	-----	---	-----

Multiple pregnancy occurred in 13.3% (n=2) of mothers of newborns with ELBW, 30% (n=9) - with VLBW, 15.6% (n=7) - with LBW, and in one case of the control group. In the majority of mothers of the ELBW, VLBW, and LBW groups, childbirth was performed with a caesarean section 100%, 86.7% and 86.7%, respectively, and only in 2 (6.7%) women in the control group. The frequency of occurrence of previous spontaneous miscarriage, as well as recurrent miscarriage was in the ELBW group (13.3% and 26.7%, respectively), with VLBW (16.7% and 10%) and LBW (11.1% and 6.7%), and in all three groups these figures significantly exceeded those in the control group (3.3% and 3.3%). Our indicators corresponded to the results of literature data [1]. Extragenital pathology during pregnancy was more common in the study groups and only in 20.0% of cases (n=5) in the control group. The results on the prevalence of somatic diseases in mothers of children born with ELBW, VLBW and LBW are given in Table 4.

Table 4

The frequency of occurrence of somatic diseases in mothers of children born with ELBW, VLBW, LBW, and the control group

Diseases	Patients groups						Control group, n=30	
	ELBW n =15		VLBW n =30		LBW n =45			
	n	%	n	%	n	%	n	%
Endocrine pathology (thyroid disease)	6	40	10	33,3	7	15,6	4	13,3
Cardiovascular disease (heart disease)	10	66,7	18	60	14	31,1	2	6,7
Kidney disease (chronic pyelonephritis, exacerbation)	4	26,7	8	26,7	8	17,8	—	—
Iron-deficiency anemia	12	80	19	63,3	15	33,3	3	10
Systemic diseases (autoimmune)	1	6,7	—	—	—	—	—	—
SARS during pregnancy	7	46,7	7	23,3	8	17,8	—	—
COVID-19 during pregnancy	2	13,3	10	33,3	8	17,8	1	3,3

Thyroid diseases occurred in 40% of mothers of children born with ELBW, 33.3% - VLBW, 15.6% - LBW, in contrast to four cases (13.3%) in the control group. More often, mothers of patients in the main group, especially those with ELBW and VLBW, had cardiovascular diseases (heart disease), kidney disease, iron deficiency anemia, as well as cases of SARS and COVID-19 during pregnancy (Table 4).

The most frequent complications during pregnancy in mothers of the main group were the threat of abortion, chronic fetoplacental insufficiency, early toxicosis, preeclampsia, oligohydramnios and polyhydramnios. It should be noted that chronic placental insufficiency,

preeclampsia, oligohydramnios and polyhydramnios were recorded only in the main group (table 5).

Table 5

Disturbances in the course of pregnancy and childbirth in mothers of children born with ELBW, VLBW, LBW, and control groups.

Pathological conditions	Patients groups						Control group, n =30	
	ELBW n =15		VLBW n =30		LBW n =45			
	n	%	n	%	n	%	n	%
Early toxicosis	6	40	15	50	25	55,6	9	30
Threat of abortion	13	86,7	17	56,7	20	44,4	11	36,7
Gestosis (late toxicosis)	5	33,3	8	26,7	10	22,2	—	—
Chronic placental insufficiency	4	26,7	6	20	3	6,7	—	—
Oligohydramnios	2	13,3	3	10	5	11,1	—	—
Polyhydramnios	3	20	1	3,3	7	15,6	—	—
Complications of the course of childbirth	11	73,3	16	53,3	14	31,1	1	3,3

Complications of the course of labor such as cervical ruptures, abnormalities of labor activity, bleeding, premature detachment of the placenta, infections) were observed in 45.5% (n = 41) of women. Of these, in mothers of children with ELBW, this indicator was 73.3% (n = 11), with VLBW - 53.3% (n = 16), with LBW - 31.1% (n = 14), and in the control group it was equal to 3.3% (n=1).

Conclusion. Thus, when studying the obtained anamnestic data, it can be said with certainty that pregnancy and/or childbirth in all mothers of the study group of children born with ELBW, VLBW and LBW proceeded with complications. An analysis of the state data at birth showed that in children of the main group born with ELBW, VLBW, LBW, it was defined as moderate and severe, while in the control group it was satisfactory.

REFERENCES

- [Шабалов Н.П., 2016, Архипова М.Ю. Захарова С.Ю., 2016, Володин Н.Н. и др., 2019].
- [Шабалов, Н.П. Неонатология (в 2 томах), 6-е изд., испр. и доп. / Н.П. Шабалов. – М.: ГЭОТАР-Медиа, 2016. - 1443 с; Володин, Н.Н. Неонатология. Клинические рекомендации / Н.Н. Володин, Д.Н. Дегтярев, Д.С. Крючко. – М.: ГЭОТАР-Медиа. - 2019. - 320 с; Плигина, Е.В. Организация и оказание медицинской помощи недоношенным детям на педиатрическом участке: учебное пособие / Е.В. Плигина. - Оренбург: ГБОУ ВПО «ОрГМА» Минздрава России, 2013. - 70 с.].
- Administration manual*. London: Association for Research in Infant and Child Development (ARICD); 2006.
- Кешишян ЕС, Сахарова ЕС. Психомоторное развитие как критерий неврологического здоровья недоношенного ребенка. *Лечащий Врач*. 2004;5:21-27.

5. Огородова И.И. Загороднева В.И., Чепель Л.Л. Мамай И.Б. / Опыт ведения детей с последствиями перинатального поражения нервной системы в течение первого года жизни в амбулаторных условиях/2012г Клиническая практика.
6. Рожденные слишком рано. Доклад о глобальных действиях в отношении преждевременных родов. Всемирная организация здравоохранения. 2014.