

PRACA POGLĄDOWA  
REVIEW ARTICLE

## ANALYSIS OF MORBIDITY AND CAUSES OF INFANT MORTALITY IN POLTAVA

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### ABSTRACT

**Introduction:** Providing high-quality health care to the newborn is part of the national health system. The number of healthy children in Ukraine decreases annually. One of the main directions of development of the pediatric service is reduction of indicators of child mortality, increase of birth rate and strengthening of children's health.

**The aim:** To analyze the dynamics of morbidity and causes of infant mortality in the city of Poltava.

**Materials and methods:** Medical and statistical - for collecting, processing and analyzing data, (descriptive and analytical statistics for determining relative indicators, absolute growth indicators), a systems approach and system analysis.

**Review:** According to a study in the city of Poltava, there is a negative absolute increase in the birth rate of children. In the structure of the causes of death of the child population in the first place are the diseases of the period of birth of the newborn, in the second place - congenital anomalies of development. The third place in the structure of causes of death is occupied by diseases of the central nervous system. There is a clear decrease in the incidence of hemolytic disease, anemia, cardiac disorders, intrauterine hypoxia and asphyxiation. In the structure of birth injuries in newborns occupy closed clavicle fractures, plexitis of the newborn.

**Conclusions:** Analysis of the incidence and causes of infant mortality in the city of Poltava suggests that in recent years there has been a decrease in fertility rates, an increase in morbidity rates. The reform should be aimed at improving the state of the pediatric service and the prevention of preterm labor.

**KEY WORDS:** reforming, newborns, mortality, morbidity

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### INTRODUCTION

Providing high-quality nursing care is part of the national health system [1,2]. The socio-economic crisis in Ukraine, the prolonged military actions, caused significant irreversible demographic losses. The number of completely healthy children in Ukraine decreases annually [3, 4]. The deterioration of the quantitative and qualitative indicators of population reproduction has become the character of a steady trend [5, 6, 7]. The social situation of mothers and children noticeably deteriorates. Therefore, one of the main directions of the development of the prenatal service is reducing infant mortality rates, increasing fertility rates, improving the condition of newborn babies, preventing maternal and infant mortality (mortality in children of 1 year of life), and strengthening the health of the children population [8, 6].

### THE AIM

The aim our work was to analyze the dynamics of indicators of morbidity and causes of mortality of newborns in the city of Poltava.

### MATERIALS AND METHODS

The research was conducted on the basis of state and sectoral statistics. In order to achieve the goal, research

methods such as medical statistics were used to collect, process and analyze research materials (descriptive and analytical statistics for the determination of relative indicators and absolute growth rates, growth rates and growth rates), system approach and system analysis.

### REVIEW AND DISCUSSION

In 2017, 364,0 thousand children were born in Ukraine, in particular in the Poltava region, the birth rate was 7.8 per 1,000 population (in 2016 it was 8.7 per 1000 inhabitants) [3, 2]. According to the study, in Poltava, a negative absolute increase in births is observed in the maternity hospital in 2015 and 2017 [6]. The proportion of childbirth by Caesarean section increased during 2015-2017 (Table I). The rate of growth of pathological births has increased, the number of women with drug dependence has also increased, and the absolute increase in the number of children with somatic pathology has decreased during this period.

In the structure of the causes of death of the child population in the first place are diseases of the period of newborn birth, in the second place - congenital malformations. Third place in the structure of causes of death in 2014-2017 occupy the diseases of the central nervous system (Table II).

Among the diseases of the period of newborns in the structure of the causes of death in the first place are symp-

**Table I.** Dynamics of fertility rates in Poltava maternity hospital for 2015-2017

	2015			2016			2017		
	Absolute index	Absolute increment	The pace of growth, %	Absolute indicator	Absolute increment	The pace of growth, %	Absolute indicator	Absolute increment	The pace of growth, %
Born in a maternity hospital, of which:	3062	-197	93,9	2959	103	96,6	2799	-160	94,5
finished ones	2933	-169	94,5	2824	109	92,6	2650	-174	93,8
prematurely	129	-28	82,1	135	+6	104,6	149	+14	110,3
Outside the maternity home	4	-3	57,1	2	-2	50	3	+1	150,0
Rejected children	4	+2	-	5	+1	-	4	-1	-
Pathological birth	41	+4,7	112,9	35	-6	85,3	40,2	+5,2	114,8
Specific gravity of labor by caesarean section	17,2	+2,8	119,4	18,4	+1,2	106,9	19,9	+1,5	108,1
Born with drug addiction	6 cases	+1	120,0	4 cases	-2	66,6	4 cases	0	100,0
Breast with somatic pathology	56	+10	121,7	56,8	+0,8	101,4	53,6	-3,2	94,3

**Table II.** The structure of the causes of death of the children's population of Poltava in 2014-2017.

Diseases	Year	2014	2015	2016	2017
		1.	Diseases of the period of newborn, including:	15	20
	hypoxia, asphyxia	3	4	3	1
	systems of respiratory disorders	4	5	6	3
	sepsis	3	2	4	2
	pneumonia	2	5	--	1
	intra-gastric hemorrhages	1	3	3	--
	neonatal ascorbation with meconium	1	1	--	1
	extreme degree of immaturity	-	--	1	1
	primary atelectasis of the lungs	-	--	1	--
	hemolytic neonatal disease	-	--	1	--
	diseases of hyaline membranes	-	--	--	1
2.	Congenital malformations	4	4	3	6
3.	Diseases of the central nervous system	4	5	2	--
4.	Diseases of the cardiovascular system	1	1	--	--
5.	Accidents	1	1	1	1
6.	Infectious diseases	-	1	1	--
7.	Diseases of the digestive system	1	--	2	--
8.	Diseases of the respiratory organs	1	--	1	--

toms of respiratory disorders, the second place is occupied by death from hypoxia, asphyxia and sepsis. Third place among the diseases of the period of newborn birth congenital pneumonia.

The index of morbidity refers to the main demographic indicators that characterize the health of newborns and the quality of medical care for women and children. Studying

the causes of morbidity and mortality of newborns, its frequency, analysis of factors influencing these indicators, is an actual problem of modern obstetrics [7]. In the structure of the general morbidity of newborns in Poltava, for the period 2014-2017, the first place is marked by developmental abnormalities, in the second place - cerebral disorders, the third place occupy maternal traumas of newborns (Table

**Table III.** The structure of the general morbidity of newborns

Diagnoses	2014		2015		2016		2017	
	Abs. indicator	%	Abs. indicator	%	Abs. indicator	%	Abs. indicator	%
Developmental anomalies	114	48,0	107	36,6	102	26,2	80	10,3
Cerebral disorders	19	4,7	27	9,2	93	23,9	99	12,8
Maternal injuries	18	3,9	26	8,9	22	5,6	161	20,9
Hemolytic disease	43	12,5	31	10,6	22	5,6	20	2,5
The weight is too short gestational	32	11,0	24	8,2	14	3,5	11	1,4
Jaundice	4	1,3	6	2,0	11	2,8	23	2,9
Anemia	3	0,9	6	2,0	3	0,7	1	0,1
Heart violations	3	1,2	5	1,7	7	1,7	3	0,3
Intrauterine hypoxia and asphyxia	2	0,8	5	1,7	8	2,0	1	0,1
Abstinent syndrome	7	1,9	5	1,7	4	1,0	3	0,3

**Table IV.** Structure of maternal traumatism of newborns

Diagnosis	2014		2015		2016		2017	
	Abs. indicator	%	Abs. indicator	%	Abs. indicator	%	Abs. indicator	%
Maternal injuries, including:	18	3,9	26	0,8	22	0,7	161	5,7
Kefalematomy	30	47,6	11	42,2	10	45,4	125	77,6
Closed fractures	23	36,5	9	34,6	8	36,3	34	21,1
Plexit	10	15,8	6	28,0	4	18,1	2	1,2

III). There is a clear decrease in the incidence of hemolytic disease, anomalies of newborns development, anemia, cardiac violations, intrauterine hypoxia (I / O) and asphyxia and withdrawal syndrome, as well as an increase in incidence of cerebral disorders, birth trauma, jaundice during 2014-2017.

In the structure of childbirth infants newborns in the first place isolate kefalgematomy, in the second place - closed fractures of the collarbone, and in the third place are plexitis of newborns (Table IV). During the period of 2014-2017, there was a decrease in the incidence rate of plexitis and a closed fracture of the collarbone.

## CONCLUSIONS

The analysis of the morbidity and causes of newborn mortality in Poltava shows that in recent years there has been a decrease in fertility rates, and indicators of morbidity and sex traumatic disease remain at a rather high level. The reform of prenatal care should continue in the direction of improving the state of work of the pediatric service and preventing early childbirth. To do this, it is necessary to provide pregnant women with timely and qualified medical assistance, to equip modern maternity hospitals with modern medical equipment to provide high-tech care to preterm infants, to provide the population with affordable

family planning services. All these measures will help reduce the morbidity and mortality of newborns, and as a result, improve the demographic situation in Ukraine.

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