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ВОЗНИКНОВЕНИЕ ВРОЖДЕННЫХ АНОМАЛИЙ У ДЕТЕЙ

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РЕЗЮМЕ

Хотя некоторые врожденные дефекты можно контролировать и лечить, примерно 3,2 миллиона из этих детей остаются инвалидами на всю жизнь. Кроме того, врожденные дефекты являются основной причиной младенческой смертности. Но откуда эти недостатки? В то время как одни врожденные дефекты передаются по наследству, другие являются результатом вредных факторов окружающей среды, известных как дерматогены,

а другие - результатом сложного взаимодействия генетических факторов и влияний окружающей среды. Но примерно в половине случаев врожденных дефектов причины неизвестны. Несмотря на прогресс, достигнутый в дальнейшем углублении реформирования системы здравоохранения в нашей стране, укрепления и защиты здоровья детей, врожденные аномалии (пороки развития) играют ведущую роль в структуре их заболеваемости, инвалидности и смертности. Сообщается, что из

них 7500 детей младше одного года. 60,5% младенческих смертей были вызваны перинатальными случаями, 16,8% – дефектами дыхания, 11,7% – врожденными аномалиями и 11% – другими заболеваниями.

Ключевые слова: врожденные аномалии, врожденные пороки развития, врожденные пороки сердца, перинатальные причины.

OCCURRENCE OF CONGENITAL ANOMALIES IN CHILDREN

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ABSTRACT

Although some birth defects can be controlled and treated, approximately 3,2 million of these children are lifelong disabled. In addition, birth defects are a leading cause of infant mortality. But where do these shortcomings come from? While some congenital defects are inherited, others are the result of harmful environmental factors known as dermatogens, while others are the result of complex interactions of genetic and environmental influences. But in about half of cases of birth defects, the causes are unknown. Despite the progress made in further deepening the reform of the health care system in our country, strengthening and protecting the health of children, congenital anomalies (developmental defects) play a leading role in the structure of their morbidity, disability and mortality. Among them, 7500 are said to be infants under one year of age. 60,5% of infant deaths were due to perinatal cases, 16,8% to respiratory defects, 11,7% to congenital anomalies and 11% to other diseases.

Key words: *Congenital anomalies, congenital malformation, congenital heart defects, perinatal causes*

Introduction. Every year, it is estimated that 7,9 million babies (6 percent of births worldwide) are born with serious birth defects. Although some birth defects can be controlled and treated, approximately 3,2 million of these children are lifelong disabled. In addition, birth defects are a leading cause of infant mortality in the United States causes[8,14]. But where do these shortcomings come from? While some congenital defects are inherited, others are the result of harmful environmental factors known as dermatogens, while others are the result of complex interactions of genetic and environmental influences. But in about half of cases of birth defects, the causes are unknown[3].

Epidemiological studies conducted in recent years have shown that between 5% and 10% of the world's population suffers from congenital anomalies.

Congenital anomalies now rank first among the top five causes of infant mortality worldwide.

Infant mortality trends: Infant mortality has declined globally from 93% per 1000 live births in 1990 to 39% in 2017. All regions of the WHO halved the under-five mortality rate during the same period. The mortality rate of children under five remains undistributed. About 73% of under-five deaths occurred in 2017 in two regions, WHO Africa (49%) and WHO Southeast Asia (24%). The highest infant mortality rate is 74 in the WHO Africa region (74 per 1,000 live births) and 8 times higher than in the WHO European region (9 per 1000 live births)[8,14,17].

Of those who died, 60,3% died from diseases of the circulatory system, 9,7% from various tumors, 5,6% from digestive organs, 4% from respiratory diseases, and 20,4% from other diseases[10,19].

Among them, 7,500 are said to be infants under one year of age. 60,5% of infant deaths were due to perinatal cases, 16,8% to respiratory defects, 11,7% to congenital anomalies and 11% to other diseases.

Of those who died, 60,3% died from diseases of the circulatory system, 9,7% from various tumors, 5,6% from digestive organs, 4% from respiratory diseases, and 20,4% from other diseases.

If we consider the number of congenital anomalies among the population of Uzbekistan according to the picture 1, in comparison with 2014 it is decreased, if in 2014 this number was 52,4 people from 100,000, in 2017 it was 48,5. In Tashkent city for 2017 it was 12,2 % less than 2014 (correlatively from 100,000 people 91,8 and 104,4) [21,22,27].

In spite of successes of Uzbekistan achieved in health protection of children, the number of congenital anomalies (problems in development) in the structure of children diseases, disability and death is still remaining substantial[1,10].

The congenital anomalies are one of the main health and social problems. Some of children born with congenital anomalies will die in first months of life, others remain in need for medical and social help[3,9,28].

Picture 1. With congenital anomalies (developmental defects), deformities and chromosomal abnormalities
Prevalence of children aged 0-14 and 15-18 years (per 100,000 children)

Name of regions	2014			2015			2016			2017			2018		
	0-14 young	15-18 young	0-18 young	0-14 young	15-18 young	0-18 young	0-14 young	15-18 young	0-18 young	0-14 young	15-18 young	0-18 young	0-14 young	15-18 young	0-18 young
Tashkent city	1532,9	407,6	1940,5	1464,2	363,1	1827,3	1317,7	333,3	1651,0	1370	313,2	1683,2	1138,1	256,7	1394,8
Andijan region	338,9	223,4	562,3	349,3	230	579,3	348,7	320,6	669,3	334,5	269,9	604,4	285,3	276,8	562,1
Bukhara region	575,4	260,2	835,6	627,4	448,2	1075,6	496	271,9	767,9	492,4	257,6	750	497	174,8	671,8
Jizzakh region	187,4	141,5	328,9	264,2	165,3	429,5	214,5	128,2	342,7	217,1	71,3	288,4	134,4	289,2	423,6
Kashkadarya region	520,2	200,4	720,6	476,8	130,4	607,2	465,1	167,2	632,3	433,4	183,6	617	411,4	147,7	559,1
Navoi region	418,7	225,3	644	599,3	229,9	829,2	617,5	203,6	821,1	615	266,4	881,4	478,4	195,5	673,9
Namangan region	488,5	397,2	885,7	520,1	294,9	815	508,1	254,2	762,3	476,6	234,5	711,1	464,1	335	799,1
Samarkand region	626	282,6	908,6	615,5	257,6	873,1	544,4	206	750,4	602	329	931	890,2	366,1	1256,3
Sukhondarya region	337,7	119,5	457,2	404	191,5	595,5	231,7	224,7	456,4	298,4	274,3	572,7	352,5	203,8	556,3
Syrdarya region	391,7	226,3	618	407,7	209,5	617,2	394,9	214,2	609,1	392,9	232,4	625,3	397,6	200,2	597,8
Tashkent region	1166,5	354,6	1521,1	949,2	810,2	1759,4	960,3	458,5	1418,8	1014,1	415,4	1429,5	928,3	419,3	1347,6
Fergana region	885,3	325,5	1210,8	885,6	296,8	1182,4	894,9	396,9	1291,8	819,8	267,6	1087,4	1021,8	377,5	1399,3
Khorezm region	771,5	350,9	1122,4	619,7	298,1	917,8	393,7	206	599,7	393,6	170,6	564,2	386,1	155,8	541,9
The Republic of Karakalpakstan	319,8	113,4	433,2	334,4	131,7	466,1	325,7	121,5	447,2	394,1	102,5	496,6	301,6	84,1	385,7
Republic of Uzbekistan	636,6	267,1	903,7	626	295,2	921,2	571,5	261,7	833,2	574,6	252,3	826,9	598,8	264,5	863,3

By opinions of several doctors, the congenital anomalies are 20% from the total number of all children diseases and disabilities, 15-20% from the number of death among children. The results of researches showing us, that in several territories of Uzbekistan the quantity of children born with congenital anomalies out of 1000 children is from 8,5 to 16,8[4,11,21].

The goal of this research. To review the structure and the level of congenital anomalies within the children diseases, disability and death reasons.

Methods and the material of research. In order to research the children diseases we took 4 clinics from districts: Chilanzar - clinic number 39, Yakkasaray - clinic № 23, Almazar - clinic №18, Mirobod - clinic № 44, studied through the analysis of the health of 1150 children in dynamic from birth until the age of three. We researched the diseases according to the international children mortality periods: 0-2 (with the special indication of first month), 3-5, 6-8, 9-11.

Following documents of registration-statistics were used as the source for children diseases research: the records of child development (form – 112, medical check-ups history (form – 113-III), the card of stationary patients (form – 003). The data obtained was inputted to the specially devised card “The analysis card of toddlers’ diseases and medical services”.

We studied the children disabilities through total dynamic observation of disable children in Mirobod, Almazar, Chilanzar and Mirzo Ulugbek districts of Tashkent city. The information received from State statistical committee was inputted to the special journal “The registration of the reasons, dynamics and the level of disabilities research”. In 2015-2019 the number of disabled children made up average from 5131 until 6500.

Taking into account that the data obtained for the examination and comparison of reasons for conformity of children death’s several age groups and the level by gender will not give representative, reliable information, in the third stage of research we studied the reasons of children death through the observation of children died until age of 3 (total 2041) in Tashkent city during 2015-2019. As a source in studying of children death until age of three we used certificate of perinatal death (106-2), medical certificate about death (106), death registration, child’s development case history (112), journal of registration of post-mortem examinations (013-1) and position paper, also the materials of Registry offices and Statistic Committee of Tashkent city.

For elucidation of death reasons there was held examination, after which we registered information about dead children in the “Card for studying the reasons of infant death”.

Discussion of the results of research. The number of congenital anomalies among the children until age of 1 was 251,5 infants. From the birth till 2 month period congenital anomalies number was 137,0 for every 1000 infant. Such class diseases of 0-2 month infants made up a large number among the children until age of one. Among the congenital developmental defects the musculoskeletal system anomalies took first place, most revealed of which are the hip dysplasia and congenital bandy-necked anomalies. According to our information, among children until the age 1 for every 1000 infant the quantity of hip dysplasia founded in 125,5%, congenital bandy-necked in 57,3%, congenital hip sprain in 6,2%. Among the diseases of this type the amount of congenital bandy-necked and congenital hip sprain in girl infants was for 1,3 time higher than in boys [12,24,26,30].

Table 1. Quantity of congenital anomalies of children until age of 3 (in 1000 infants of same age)

Nosology of diseases	Age		
	1 year	2 year	3 year
Congenital anomalies	251,5	63,5	11,2
-circulatory system anomalies	7,4	-	1,63
congenital heart anomalies	31,1	2,8	-
-congenital bandy-neck anomalies	57,3	6,59	-
-congenital hip sprain	6,2	-	3,53
-hip displasia	125,5	30,1	-
-others	23,6	24,0	6,04

60% of all children diseases consist of the neurological system diseases and congenital anomalies.

21% of children diseases consist of congenital anomalies (problems in development), which takes second place. The level of prevalence of it in Tashkent city equals to 21,2% the 24,1% of which registered in boys and 23,9% in girl infants. The structure of congenital anomalies causing children disabilities is shown in the table. According to it large number making up congenital sprain of thigh bone (5,3%), cleft-palate (3,1%), Down Syndrome and chromosomal abnormalities (3%), congenital anomalies of eye and ear (2,5%), microcephaly (2,2%), congenital heart disabilities (2,3%) .

This diseases were registered from the birth until the age of 4, the eye and ear anomalies were detected in children until the age of 5 and 7. Noteworthy is that the congenital sprain of thigh bone, microcephaly, cleft-palate were registered more often in girls, the eye and ear anomalies, congenital heart disease, Down syndrome and chromosomal diseases were registered more often in boys [5,18,24].

Table 2. Children disabilities number in congenital anomalies (on 100 thousand)

Nosology of diseases	0-2	3-4	5-6	7-14	15-16	Total
	XYI. Congenital anomalies (abnormalities of development)	48,6	27,1	24,7	15,2	11,3
Microcephaly	4,9	2,9	5,2	1,2	0,6	2,2
Congenital heart abnormality	5,5	2,9	1,5	1,6	1,9	2,3
Congenital anomalies of eye and ear	2,5	2,2	4,5	2,9	1,3	2,5
Cleft-palate	9,8	3,7	2,2	1,9	2,5	3,1
Congenital sprain of thigh bone	17,8	11,0	2,2	2,3	1,9	5,3
Congenital deformation of foot	1,2	1,5	1,5	1,3	1,0	1,2
Down syndrome, chromosomal diseases	3,7	3,7	3,0	2,9	1,9	3,0
Other congenital anomalies	3,1	1,5	4,5	1,0	1,3	1,7

Health, including the health of the fetus and child, is an integral quantity, determined by a number of objective factors that are not dependent on human influence and are related to its activities. The first unrelated factors are the genetic code of the developing organism, which determines the following vital parameters: sex, growth and physical development rates and levels, “binding” periods and activity of key enzyme processes, morphological and functional tissues, organs and systems [15]. The rate and level of maturation, the level and quality of the interdependence of the body’s control mechanisms, the basis of the fetus’s response to external traumatic influences, as well as metabolic and adaptive to non-pregnant life in the first hours, days and weeks of life and adaptive mechanisms, later pathological conditions and genetically related conditions that lead to disease, and so on.

The second group of factors relates to factors whose impact is related to human activity and can be conditionally divided into non-medical and, in particular, medical types [21].

Non-medical factors include social, societal, social, religious, spiritual, and environmental factors that affect the developing fetal organism and the newborn

organism. Their influence is realized through the woman's body, psyche, perception, lifestyle and activities. Depending on the situation, this condition can mitigate and even smooth out the negative impact on the fetus and child, as well as increase and significantly increase its impact. It should be noted that in addition to environmental influences, these factors, which have nothing to do with biology and medicine, still have a great biological impact, because the child undergoes processes of high intensity: growth, development and perfection, a new form of human existence as well as cases of reconstruction, which are very important in terms of their level and importance, and so on[2,9]. Therefore, their medical and non-biological nature is characterized by impaired growth and development of the fetus, impaired organ and tissue maturation, normal management processes in the body, the formation of adaptive mechanisms for survival outside of pregnancy and their effects. Thus, non-medical adverse factors affecting the health of the fetus and newborn are considered to have genetic and, in particular, biological effects no less than medical factors [11, 18, 23].

A number of targeted national programs to strengthen the reproductive health of the population, protection of motherhood and childhood have been implemented. Republican and regional screening centers have been established to prevent the birth of children with hereditary and congenital diseases. There are many examples of results achieved in different areas of such an industry.

Conclusion. Improving the efficiency, quality and popularity of health care, as well as the formation of a system of medical standardization, the introduction of high-tech methods of diagnosis and treatment, the promotion of healthy lifestyles and disease prevention through the creation of effective models of patronage and dispensary case, approached with special responsibility. In which countries is there a patronage service, a door-to-door system, and how effective are they? When we studied the world experience in this regard, the Cuban state caught our attention. Cuba has a well-developed medicine, and the health of the population is very high. There is a prevention of diseases as a result of door-to-door walking, early detection of them is established, and getting sick is not allowed. While the U.S. spends \$ 8,553 per capita on health care, Cuba spends about \$ 431 per capita, making it a better performer than the United States in public health care. People will realize that they need to see a doctor only if we explain in depth that household prophylaxis, prevention of medicine among the population, and a healthy lifestyle also benefit the family budget.

Strengthening the system of maternal and child protection through the development of medical genetics, emergency and specialized medical care for women and children, the introduction of modern screening programs, the formation of regional multidisciplinary medical complexes and information systems "Mother and Child" will be under the constant control of industry representatives.

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ОСОБЕННОСТИ ФИЗИОЛОГИЧЕСКИХ ИЗМЕНЕНИЙ РОТОВОЙ ЖИДКОСТИ ПРИ АДЕНТИИ У ЛЮДЕЙ

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РЕЗЮМЕ

Обследованы 30 больных (средний возраст $40,6 \pm 3,5$ года) с различными степенями частичной адентии. Пациенты были разделены на 3 группы. Первую группу ($n=12$) составили практически здоровые люди, у которых целостность зубных рядов была сохранена. Вторую группу составили пациенты с частичной адентией, у которых отсутствовало не более 3 зубов ($n=16$). В третью группу вошли больные с частичной адентией, у которых отсутствовало 4-6 зубов ($n=14$). Выявлено, усиление процессов ПОЛ, которая индуцирует

изменение и дисбаланс системы АОЗ слюны больных адентией, что подтверждается результатами, полученными при исследовании активностей ГР, ГТ и содержания восстановленного и окисленного глутатиона. Адентия приводит также к снижению неспецифической резистентности ротовой жидкости, которая может приводить к ухудшению репаративных процессов, осложняя адаптацию при различных видах протезирования.

Ключевые слова: зубочелюстная система, адентия, депрессия, дисфункция, дефект, топография, сустав, слюна, кровь, адаптация.

FEATURES OF PHYSIOLOGICAL CHANGES IN THE ORAL FLUID WITH ADENTIA IN HUMANS

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ABSTRACT

Thirty patients (mean age 40.6 ± 3.5 years) with varying degrees of partial adentia were examined. The patients were divided into 3 groups. The first group ($n = 12$) consisted of practically healthy people in whom the integrity of the dentition was preserved. The second group consisted of partially edentulous patients who had no more than 3 teeth missing ($n = 16$). The third group consisted of patients with partial adentia, who lacked 4-6 teeth ($n = 14$). It was revealed that the intensification of LPO processes, which induces a change and imbalance in the AOD system of saliva in patients with adentia, is confirmed by the results obtained in the study of the activities of GR, HT and the content of reduced and oxidized glutathione. Adentia also leads to a decrease in the nonspecific resistance of the oral fluid, which can lead

to a deterioration in reparative processes, complicate adaptation in various types of prosthetics.

Key words: dentition, adentia, depression, dysfunction, defect, topography, joint, saliva, blood, adaptation.

Актуальность. Сохранение здоровых зубов является одним из важнейших признаков высокого качества жизни - они обеспечивают полноценность питания, эстетический внешний вид, активный образ жизни [1, 2, 4, 15]. Как известно, качество жизни человека напрямую зависит от состояния зубочелюстного аппарата. Полная или частичная утрата зубов влияет на выбор пищи, вследствие нарушения физиологических процессов жевания и пищеварения, условия ее приема, а также на внешний вид и социально-психологическое поведение людей [3, 7, 9]. Адентия негативно сказывается