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THE IMPORTANCE OF ANALYZING FORENSIC MEDICAL EXAMINATION MATERIALS IN CASES OF CHILD AND ADOLESCENT DEATHS

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ANNOTATION

Child and adolescent mortality is one of the common problems affecting virtually all countries worldwide. The ongoing efforts to reduce child and adolescent mortality rates annually, the diversity of causes, types, and forms of fatal incidents, as well as the necessity to determine the prevalence of such cases in the Republic of Uzbekistan, have further heightened interest in studying this issue.

Keyword: Child and adolescent mortality: forensic medical examination.

Analysis of data from the Ministry of Health of the Republic of Uzbekistan over the past 10 years has shown that the majority of child mortality is due to respiratory diseases. In 2002, respiratory diseases ranked first in the structure of child mortality at 46.9%, followed by perinatal causes at 31.5%, and intestinal infections at 5.9%. Research has demonstrated that a low maternal health status index and complications during pregnancy and childbirth are the most crucial indicators determining the level of child mortality. The structure of child mortality over time can be conditionally divided into three periods: the early neonatal period, late neonatal period, and postnatal period.

Of the total number of deaths in the early neonatal period, 62.9% occurred within the first 24 hours after birth, 9.9% between 24-47 hours, 8.3% between 48-72 hours, and the remaining 19.0% between 72-168 hours. The leading causes of death observed on the first day are respiratory disorders at 24%, birth injuries at 18%, asphyxia at 14%, and pneumonia at 13.2%.

The primary causes of infant mortality in the late neonatal period are birth trauma (23.9%), intrauterine pneumonia (15.1%), intrauterine infection (14.8%), respiratory diseases (10.9%), and congenital malformations (11.9%). These statistics are attributed to

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the presence of chronic bacterial infections of the urinary tract and reproductive organs in pregnant women during the latent period, as well as inadequate consultations, examinations, treatment, and preventive measures for women. In total, 41.5% of infant mortality (children under 1 year old) occurs during the postnatal period, with 45.4% of these deaths taking place in children's hospitals, 10% in pediatric infectious disease hospitals, 8.5% in district central hospitals, and another high percentage (20.8%) occurring at home. It should be noted that, unlike the previously mentioned periods, the majority of deaths during this period are caused by respiratory diseases (38%), as well as infectious and parasitic diseases (18%), congenital malformations (12%), and accidents (injuries, poisoning, burns, mechanical asphyxia) (9%). According to WHO data, the worldwide incidence of sudden infant death syndrome ranges from 0.6 to 3.5 per 1,000 live births. In countries such as New Zealand, Australia, England, the USA, and Russia, where this indicator is relatively high, sudden infant death syndrome accounts for 15% to 30% of the child mortality structure.

The most frequent risk factors for sudden infant death were studied, which included: single-parent families (23.4%), young families (12.0%), insufficient living space (less than 2 sq.m per person), alcoholism in one of the parents, number of maternal abortions (more than 3), fourth pregnancy, maternal age (less than 17 years), short intervals between pregnancies (less than 2 years), and infant weight disproportion (less than 2.5 kg or more than 4.0 kg). A direct link has been established between sudden infant death and stress, infectious agents, antibiotics, diphtheria and tetanus vaccination, and surgical procedures.

Infant mortality rate is an important demographic indicator recognized as a measure of socio-economic development, primarily related to the population's living conditions, medical culture, and organization of healthcare institutions. Indeed, improving the quality of medical services is the most crucial factor in reducing child and adolescent mortality. When comparing the health status and availability of medical services for children and adolescents in urban and rural areas of the republic, it was found that diseases of the nervous system and sensory organs, circulatory system, digestive system, musculoskeletal system, as well as injuries increase with age and persist into adolescence. This pattern is characteristic of children's health development in both urban polyclinics and rural medical stations. According to statistical data, the overall morbidity rate of children under 14 is 780-846 per mille. Research shows that between 2001 and 2006, the

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infant mortality rate in Tashkent decreased from 13.7 to 9.6, with almost half of these deaths occurring in the neonatal period. The epidemiology of child mortality in Nebraska, USA, was studied through forensic medicine. The Forensic Department of the Lancaster County Prosecutor's Office, in collaboration with the Nebraska Institute of Forensic Sciences, examined mortality among children aged 0 to 18 over a 7-year period from April 1, 2003, to March 31, 2010. This process was analyzed retrospectively, revealing that male victims were most common, accounting for 70% of 98 cases, while females constituted 30% of 42 cases. This indicates a male-to-female ratio of 2.3:1.

The average age of children is 7.6 years. The racial composition is: 86.4% White, 10.7% Hispanic, 0.7% Native American, 1.4% African American, and 0.7% Asian American. Most deaths occurred in the 0-1 year age group (50 cases), followed by the 15-18 year age group (40 cases), 1-4 year age group (23 cases), 10-14 year age group (17 cases), and 5-9 year age group (10 cases). The most common causes of death include accidents, sudden death, natural causes, homicides, and unintentional incidents. 71 cases (50.7%) are considered preventable. Accidental injuries from blunt objects account for 41 cases or 30% of all deaths. Suicides occurred in 19 cases (13.6%), mainly among older age groups: 6 cases in the 10-14 age group and 13 cases in the 15-18 age group. The lowest number of cases (7) is attributed to homicides in the 0-1 and 1-4 age groups. According to WHO data, the probability of death for infants with a birth weight of less than 2500 g is 4 times higher than that of children with a higher birth weight.

A study on infant mortality in Tashkent has revealed that respiratory system diseases account for 29% of deaths, congenital malformations for 20%, and perinatal injuries and diseases for 16%. Regarding the causes of neonatal mortality specifically, congenital malformations rank first at 32%, followed by respiratory system diseases at 18% and perinatal pathology at 16%. It is important to note that the distribution of causes of death in the neonatal period differs from the overall pattern of infant mortality causes.

It is necessary to study mortality from hereditary diseases, as this affects other family members as well. Regional differences are observed in cases of sudden death among young people, occurring more frequently in urban areas than in rural areas. A thorough study of sudden death cases among adolescents will also help to place relatives with hereditary diseases under clinical supervision.

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Compared to infant mortality rates from infectious and nutritional diseases, mortality from congenital malformations and hereditary metabolic disorders is increasing. Since the beginning of the last century, the number of deaths from congenital malformations has tripled. During this period, congenital malformations accounted for 20-30% of child mortality causes in the USA, Russia, Belarus, and other Western European countries. Among the causes of death in children under one year of age, cardiovascular system defects (33.81%), central nervous system defects (18.7%), and sensory organ defects (18.7%) are the leading factors.

According to statistical data from 2004, congenital malformations accounted for 0.20% of deaths among children under 14 years of age in the Tashkent region, 2.7% in the Bukhara region, and 0.16% in the Syrdarya region. In the structure of infant mortality, these figures were 2.7% in the Bukhara region, 2.4% in the Tashkent region, 2.5% in the Syrdarya region, and 2.2% in the Fergana region. Addressing the issue of infant mortality requires not only the efforts of pediatricians but also coordinated actions from the entire society and other medical fields to tackle specific challenges.

Cardiovascular diseases also play a significant role in cases of sudden death among children and adolescents. This issue is one of the most urgent in modern cardiology. In 30% of cases of sudden death among individuals aged 1 to 20 years, the cause is of cardiac origin. Studies have revealed a prolongation of the Q-T interval on ECG to 0.005-0.007 seconds. Such a change is more frequently observed in cases of sudden death, epileptic seizures, Jervell and Lange-Nielsen syndrome, and Romano-Ward syndrome. Analysis of population mortality based on age and causes of death showed that among men and women under 5 years of age, respiratory diseases pose the highest risk. For men aged 5-45 years, injuries and accidents are the main cause of death (accounting for 75% of fatal cases). In women, these causes are observed between the ages of 5-38 years, with 60% of cases occurring among 17-year-olds.

Many children's lives are at risk due to accidents. Accidents have become the leading cause of death among children and adolescents. In a study of child mortality by age group in Istanbul, autopsies considered causes of death, types of accidents, age, and gender. Males accounted for 73% of deaths under the age of 18, while females accounted for 27%. The mortality rate was highest among those aged 15-18, with the main causes of death being car accidents (23.1%), drowning (20.1%), poisoning (15.7%), and falls from

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heights (15.5%). The types of trauma and incidents vary depending on socio-economic and cultural factors.

The prevalence of violent deaths among children and adolescents, particularly in the form of suicide, draws increased attention. Suicide has been documented as a multifaceted phenomenon throughout human history. There is a decreasing trend in the number of completed suicides committed by children relative to the total number of violent deaths. Suicide attempts account for 20.93% of the violent death structure. This figure confirms that suicide holds the most significant position among violent deaths. Suicide occurs 3 times more frequently among males compared to females. Specifically, among these age groups, suicide accounted for 3.6% of all violent deaths in 1995, 15.5% in 1996, 12.7% in 2010, and 9.0% in 2011. Analysis of suicide methods reveals that 96.7% of total cases were carried out by hanging, 4.52% by falling from heights, 1.91% by self-immolation, 1.7% by acute poisoning, and the remaining cases by inflicting wounds with sharp objects and firearms. The last two methods were employed exclusively by male individuals.

Thus, 67% of completed acts of autoaggression were committed by boys and 33% by girls. The ratio of this nature among children under 16 years old was 15:1 (male:female). When analyzing the age groups of suicides, the youngest suicide was 7 years old, with 7-11 year-olds constituting 20% of the total number of cases, and 12-14 year-olds - 80%. Specific forensic medical and other diagnostic signs associated with the methods of unnatural death occurrence have been identified. The importance of socio-demographic and ethno-cultural factors in the formation of suicides has been proven. Examples of deaths belonging to the violent mortality structure, which recorded relatively lower indicators, include gunshot wounds (4.8%) and falls from heights (3.4%). In most cases of poisoning, sedative drugs (dimedrol, phenazepam, diazepam), acetic acid essence and acetic acid solution, as well as natural gases, were used as direct poisoning agents. Another widespread type of violent death is hanging, which constitutes the main part of suicidal deaths and was observed in 78 cases of the study. The results of the investigation show that investigative actions related to cases of violent death necessitate reliable forensic medical diagnostics and its re-analysis, as well as the development of preventive medical and social measures. Car accidents are a fatal event that threatens the lives of many people around the world. This information was collected based on data from the

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Puerto Rican forensic medical examination in 2000-2007. Descriptive statistics calculated the age-specific mortality rate based on geographical analysis and the percentage of annual changes. During the study period, 559 fatal accidents occurred annually. Between 2000 and 2007, the number of deaths in road accidents decreased by 3%. This indicator is 80.2% for men, which is 4 times higher than for women.

According to the study conducted in China: from 1999 to 2008, in 218 cases, more than 50% were men aged 30-49 years. Common agents of poisoning include rodenticides, gases, and insecticides. When comparing 1983-1998 and 1957-1982, the overall state of poisoning changed significantly.

In recent years, the incidence of insecticide and cyanide poisoning has sharply decreased, and the trend of poisoning by radionuclides, alcohol, and narcotics has increased. In conclusion, the cause of death from poisoning remains the main healthcare problem, and measures to prevent and prevent it are crucial.

In conclusion, the increase in medical care deficiencies in recent years may lead to a deterioration of public health. Therefore, it is of great importance to reduce medical care defects, strengthen the provision of guidelines for medical workers, and improve the overall system.

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