

Children's Incidence and Mortality Reduction Measures Taken by Medical State Institutions in Ukraine

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Abstract Human health is considered to be one of the most significant values in the system of people's values. However, the modern life conditions (social and economic problems, bad ecology, educational factors, etc.) lead to deterioration of people's health. The situation in Ukraine is getting more complicated as all these conditions influence people greatly, and it's very difficult to change something drastically. Children are even in worse position, because they are under the influence of these conditions from the first days of their life; and as they are only growing up and their organisms continue to get formed, they need special nursing. However, all people realize that there is an urgent need to improve the situation and take special notice of children's health. That is why there have been developed a plan of measures for reduction in children's incidence taken by different state institutions. For example, use of educational technologies that aim at maintaining health in learners, appearance of health promoting schools have been the measure in the system of education. In medical sphere medical state institutions have taken special measures for reduction in children's incidence and mortality. The results of modern surveys show that these measures can really improve children's health under some conditions: they are taken as early as possible; medical staff knows their theoretical and practical basis; families and other state and private organizations are involved in this process and facilitate it.

Keywords: children, measures, incidence, mortality, Ukraine

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1. Introduction

Upbringing a healthy generation, forming people's conscious attitude to their health and healthy lifestyle are the main tasks of modern state policy in many fields (education, medicine, etc.) in Ukraine. That is caused by the fact that according to the main medical investigations carried out in Ukraine, 80% of modern children already have chronic diseases. [1] Children of an early age and younger learners are the most susceptible and impressible as early childhood is a period of intensive development and formation of an organism. That is why it is necessary to take some steps to improve the situation with children's health care and nursing.

The medical state institutions play the main part in the Ukrainian system of health care, as they provide free medical services for all people in Ukraine (including children). So, medical professionals at all levels of Ukrainian medical state institutions work on developing certain measures for reduction in children's incidence and mortality and improvement of the level of health care for children.

1.1. The Reasons for Children's Incidence and Mortality

There are some reasons, which cause children's incidence and mortality in Ukraine. Firstly, unfavorable social and economical factors (high level of unemployment, poor living and working conditions, stress and negative phenomena in society, insufficient funding for medicine, etc.) lead to the fact that children do not have enough nursing and care at hospitals, schools, and at home. Secondly, bad ecological situation (air pollution, lack of good drinking water, low quality food, etc.) influences children's health badly. Thirdly, genetic influence (some innate characteristics, which a child may have) sometimes cannot allow them to realize their ambitions fully. Fourthly, educational factors (imperfect organization of educational process, informational overload, domination of authoritarian style of teachers' interaction with children, reproductive style of teaching, modernization of educational process without taking into consideration hygienic requirements for its organization, the spread of bad habits, physical inactivity, modern tendencies of "fast food", etc.) cause decline in children's cognitive interest, deterioration of emotional relations between children and adults, children's poor health (especially physical and psychological), formation of their unhealthy lifestyle, apathy and absence of desire to change something in their life [1,2,3].

1.2. The Situation in Ukraine Nowadays

Nowadays Ukraine is a developing country with the population of over 45 million people. [4] It is necessary to emphasize that the problem with people's health is very significant for Ukraine as the mortality rate is constantly growing (20 years ago, in 1993, the population in Ukraine was over 52 million people). Moreover, fewer and fewer children are born in Ukraine; many families cannot afford to have more than one child. Families with three and more children are very rare to see. So, the government focuses on children's maintenance of health as children are a future generation of the country.

At the same time many Ukrainians (doctors, teachers, officials, etc.) understand that it is necessary to take some steps to improve the situation with children's health care, because if they have poor health today they will not be able to live a full life and we will have unhealthy adults in future, which may lead to worsening social and economical conditions of Ukraine. Moreover, all people acknowledge the value of health and necessity of care for children.

Like many other countries in the world, reduction in children's incidence and mortality is among the most important aims of the country's development. Though children's mortality in Ukraine is not very high, this index is considered to be the one that shows the level of a country's development. [5] However, the level of children's incidence in Ukraine is growing little by little. In the structure of diseases respiratory diseases take the first place (48,57 %); diseases of the digestive organs take the second place (7,9 %); diseases of the eye and adnexa-5,41 %; endocrine diseases-5,31 %; diseases of skin and subcutaneous tissue-4,60 %; diseases of the musculoskeletal system and connective tissue-4,55 %; other infectious and parasitic diseases-3,45 % [3].

That is why there have been developed measures for reduction in children's incidence and mortality, which have been taken by different state institutions in Ukraine. For example, in Ukrainian educational institution teachers began to use different technologies aimed at maintaining health in learners and versatile influence on them. Moreover, a net of Health Promoting Schools has appeared in Ukraine. For medical state institutions there has been developed a perspective plan of measures for reduction in children's incidence and mortality.

2. Main Text

2.1. Aim

The aim of this study is to highlight and review children's incidence and mortality reduction measures taken by medical state institutions in Ukraine.

2.2. Methods

According to the aim we have used such methods of the study as analysis and synthesis of scientific medical and educational literature to identify the level of modern children's health; comparison, correlation of different views on the problem, which is being investigated; analysis of archival materials for comparison the measures taken in Ukraine in different times.

2.3. Some Facts about History of Nursing of Children in Ukraine

It's necessary to notice that different governments, which existed in Ukraine in different times (Tsar, Soviet and Ukrainian) tried to pay attention to the problem of children's health. For example, under Russian Tsar's ruling (before 1919) there were taken such measures for children's nursing as opening special children's departments at hospitals, opening a Medical-Pedagogical Institution (1878) that aimed at experimental study of children's psychology and better care for children [6]; opening a lot of private organizations, small hospitals and shelters where doctors, nurses and teachers took care of children. In Soviet Ukraine (1919-1991) the government opened a lot of children's hospitals in cities, towns and villages, and developed various plans for nursing [7,8].

2.4. Measures for Reduction in Children's Incidence and Mortality

In independent Ukraine the government has developed a lot of measures for reduction in children's incidence and mortality. [9,10,11,12].

First of all, medical professionals make constant analyses of various indicators: a detailed analysis of the activity of all children's preventive medical institutions (annually); analysis of children's incidence (annually); analysis of children's mortality (especially at hospitals) by regions (monthly); thorough analysis of each episode of children's mortality and late hospitalization with conclusions (children from 1 till 14 years old) and analysis of newborns' mortality made by obstetricians-gynecologists and health professionals at medical councils. That helps to collect statistic data on children's different diseases, analyze them and predict possible health problems in future. Based on the results of these analyses medical professionals make constant reports on children's incidence and mortality and other problems with children's Obstetrics and Gynecology.

The next measure is providing constant training for medical professionals of all levels and from all districts and regions. That means constant doctors and nurses' instructions on various organizational-methodic problems; monitoring their work; increasing medical staff's knowledge and practical skills on pediatrics; special nursing for premature babies; special medical service for children of an early age; providing children and parents with medical and preventive care (special courses, conferences, lectures, seminars, advanced training courses, etc.); constant assistance of doctors and nurses from hospitals of big cities to doctors and nurses from hospitals of small towns and villages and interaction of nursing staff between regional and interregional hospitals; conducting the certification of doctors-pediatricians; holding conferences on various problems with health care services for children (for example, children's using certain medicines (especially antibiotics) according to the results of Ukrainian and foreign investigations; young children's acute diseases of abdominal organs; sharing doctors' experiences in treating different children's diseases and nursing, Rhesus factor, anesthesia delivery, new forms of cancer screening, new forms and methods of nursing and interaction with children; providing emergency care for

children who have hypertensive and convulsive syndrome; family planning and contraceptive methods; neonatal pathology and its early detection; rational nutrition; diseases of the urinary system; children's hematopathy, etc.). That promotes the dissemination of medical knowledge; medical professionals' gaining wide experience in treatment of children's disease; medical staff's acquaintance with innovative methods of treatment.

Moreover, the government worked out the special measures for parents. It's widely known that a period of pregnancy is very important for formation of child's health. So expectant mothers are provided with good care and nursing at women's consultation. Besides, the health educational work is carried out among parents through organization of mothers' schools at maternity departments, infant health centers, hospitals and schools of children's development. Doctors and nurses teach parents how to take care of children (bathing, feeding, going for a walk), how to help them in an emergency, how to lead a healthy lifestyle and prevent some diseases (respiratory, digestive). They also explain the necessity of immunization to parents as there are some problems with it in Ukraine. Firstly, the epidemiological situation is rather difficult. TB incidence rates are rather high (68.1 per 100 thousand people in 2012) [13]; lack of vaccines at hospitals and constant difficulties with delivery of vaccines; occasional cases of different infectious diseases (measles, German measles) and cases of other dangerous diseases (polio) in the countries which border on Ukraine. Secondly, sometimes modern Ukrainian parents do not want to vaccinate their children as they consider a vaccination to be dangerous for children's health. That is caused by some cases of Ukrainian children's death or difficult complications after vaccination. Some medical professionals say that children's death and complications were caused by bad quality of vaccines; others suppose that doctors should be more attentive to children and conduct careful examination of them before vaccinating. Anyway, nowadays more and more parents refuse to vaccinate their children and some cases of infectious diseases occur; so medical professionals have to lead preventive work among parents to let them know about complications and threats to children's life because of parents' unwillingness to vaccinate children. Almost at all children's departments and hospitals there are TV-sets, which show programs about the necessity of vaccination and tell the real stories of families where children had some infectious disease. Besides, there are some TV programs dedicated to children's development and health care. They teach parents to be careful with children's health and provide parents with elementary knowledge of children's diseases and nursing. That helps to prevent cases of children's infectious disease in future.

Furthermore, medical professionals conduct a constant preventive work on reduction in different children's health problems (pneumonia, rachitis, hypertrophy, infectious, respiratory, digestive, eye, skin, musculoskeletal diseases, etc.). For instance, medical professionals determined a number of factors in families, which worsen children's health. [2] They are a low level of children's physical activity (at home children spend 1-4 hours a day watching TV or playing computer games, but they spend only 1-2 hours a week on sport or physical activity); a bad quality and variety of food (only 35-45% of children have a

recommended balanced diet); smoking and alcohol abuse; insufficient role of families in children's development (almost 50% of parents do not know how their children spend their leisure time, they simply do not have a wish and time to communicate with their children and spend free time together). All these factors are caused by parents' lack of understanding the necessity of leading a healthy lifestyle and the importance of being attentive to children's health. So, medical professionals have worked out a number of measures to make parents conscious and active in maintenance of children's health. These measures include making posters and notices for parents (and also for doctors and nurses), handing out leaflets to parents, giving talks, and holding conversations and scientific-practical conference with medical staff and parents on various medical topics. Medical state institutions also pay much attention to development of measures for child injury prevention (TV-programs, radio-programs, articles in local newspapers; special talks and classes at schools, nursery schools, boarding schools; posters at hospitals and educational establishments; leaflets for parents; billboards and social advertisements). For example, TV-sets at children's departments and hospitals show different programs about children's diseases (children's respiratory, digestive, eye, skin, musculoskeletal diseases and the necessity to lead a healthy lifestyle). Besides, parents are told about the symptoms of certain diseases (flu, intoxication and others) and possible treatment in order to teach them to provide first aid. For instance, parents are taught to provide first aid to children when they have high temperature, vomiting as there are a lot of distant towns and villages in Ukraine where there is no hospital or a hospital may be located far away from home; so parents themselves have to help their children before ambulance comes. Thus, these programs teach parents to be attentive to their children and to provide medical care if their children are ill.

Special attention is paid to health care of newborns, babies and children of tender age. For instance, newborns are provided with daily patronage conducted by district physicians-pediatricians during the first month of their life. During the first year of their life children are provided with monthly patronage by district physicians-pediatricians. Children from 0 years to 7 years are provided with a complex examination once a year with assessment of the state of child's psychomotor development. Sick children are given necessary help at home and at hospitals of all kinds. Besides, all children are provided with free immunization against infective diseases during their childhood. District physicians-pediatricians keep an immunization schedule for each child. Children who have complex disease (diabetes mellitus, poliomyelitis, etc.) are given necessary medicine at public expense. Children who had birth trauma, sepsis, pneumonia and those who frequently get ill and have poor health have special medical examinations and constant observation. All these measures help to take into consideration children's diseases, monitor their health and take necessary steps as soon as possible.

The medical state institutions take much notice of health care for children at hospitals. For instance, they work on improving the level of organizational-methodic management of preventive medical care for children and their mothers in region and interregional hospitals. For

this purpose they provide the work of medical councils that have various directions of work including carrying out epidemiological work; monitoring the state and the results of epidemiological work in different regions in Ukraine; collecting statistic data on topics connected with children's incidence and mortality; making statistic reports for the general public, etc. The medical state institutions also improve the conditions for children's staying at hospitals facilitating the work of physiotherapy services for them and providing them and their parents with better hospital wards and medical equipment, enlargement of children's departments and hospitals. Children's departments and hospitals are equipped with children's beds and other necessary soft, firm implements and necessary medical equipment. Besides, children's departments and hospitals employ children's doctors-professionals in different fields (otolaryngologists, neurologists, ophthalmologists, dentists, surgeons), which helps to take care of children holistically.

It is widely known that our health depends greatly on food that we eat. So, medical state institutions work on opening or improving the activity of dairy factories that produce dairy food for children. For example, there is a dairy factory that produces children's dairy products in Kharkov (the second largest city in Ukraine). It is the only children's dairy factory (a period of storage of many dairy products of this factory is 1-2 days), but many other dairy factories have launched separate production lines that specialize in producing children's dairy products. Doctors and nutritionists also develop better diets for children (especially children of an early age), paying attention to expanding the assortment of various high-quality foods. After researches they propagate these diets for families, hospitals, nursery schools and schools, hold exhibitions of high-quality food for children in infant health centers, chemist's shops, children's hospitals and departments. That helps to prevent children's digestive diseases.

The next measure is carrying out various researches connected with childhood and child's development. Medical state institutions organize Council of maternal and child health, special laboratories and departments on diagnostics and treatment of various children's diseases (toxoplasmosis, infectious diseases, sepsis, pneumonia, children's gynecology, etc.). The results of successful researches (especially researches carried out in infant health centers) on various medical children's problems are published in journals. That helps to acquaint people with different medical achievements, develop different branches of medical science and attract more people to solving various problems with children's health and nursing.

Besides, the government and medical state institutions work on opening or improving the activity of children's medical and educational institutions (infant health centers or departments in small towns and countryside, nursery schools, comprehensive school, orphanages, boarding schools). Children from families in need are given free meals there. Medical state institutions carry out constant surveys of the state of medical and preventive treatment for children at these medical and educational institutions and present the results of these surveys to medical councils. Moreover, the governments and state institutions organize and facilitate the work of centers of upbringing healthy children (differentiated reception of children,

particular attention to the assessment of children's physical and neuropsychological development, etc.). This helps detect diseases in time, prescribe a correct treatment, examine children carefully and prevent possible diseases in future.

It's important to notice that all these measures may have better results if they are used integrated, not one at a time.

2.5. The Results and the Conditions of Successful Use of the Measures

The modern statistic data show that different measures, which have been taken for many years, have influenced the level of children's incidence and mortality positively. For the last 60 years this level decreased by 8 times in Ukraine [5]. For example, due to TV programs, courses and conferences for parents they have become more acquainted with the peculiarities of children's health, diseases and nursing. The level of many infectious diseases has dropped. For instance, in the middle of the 1990th, 696 children died from diphtheria, but in 2007-2008 only 8 children died. [14] In spite of the rather high level of incidence of German measles, only one case of congenital pathology has been registered for 10 years. [15] Nowadays doctors and parents pay much attention to food problems (for instance, in Kharkov more than 15,000 children aged from 0 to 3 are customers of Kharkov dairy factory, and this indicator is 30% more than 3 years ago). [16] It shows that modern parents have begun to pay much attention to children's food problems and children's health. This has reduced the cases of children's digestive diseases. Moreover, there is more assortment of medicine for children at hospitals and there are forms of medicine for children. Many children's departments and hospitals are equipped with children's things (toys, furniture), which makes staying there more comfortable for children.

However, in comparison with European countries the level of children's incidence and mortality in Ukraine is twice as more as in other European countries. For example, in Ukraine in 2009 the level of newborns' mortality was 9,4 per 1000 newborns, while in the countries of European Union this level was only 3,7 [5]. In 2012 this index was 8,5, which was twice as more as in Europe. The death risk of children aged between 1 and 15 years old is much less than the death risk of children of the other age category, but children from rural areas die 1.3 times as often as children from urban areas in Ukraine [17].

Nowadays medical professionals have distinguished a new number of diseases, which has become more and more common among Ukrainian children. They are tumors (this indicator has grown by 20% for the last 5 years, diseases of the digestive, musculoskeletal and genitourinary systems (grown by 8.5%), disorders of the nervous system (grown by 7.6%), mental and behaviour disorders (grown by 4.5%). [2] Thus, actual problems have become different and medical professionals have new purposes to work on.

The level of children's incidence is still rather high. Schoolchildren's incidence has increased by 15%, and now only 7% of schoolchildren are considered to be healthy. [18] This is caused by the fact that the measures for reduction in children's incidence and mortality have not been fully realized (more attention was paid to

reduction in children's mortality than to reduction in children's incidence). Besides, it is difficult for medical professionals to take care of children's health; they need support and assistance of other people from children's surrounding (family, teachers, etc.).

That is why the measures for reduction in children's incidence and mortality can really improve children's health under some conditions.

First of all, the measures should be taken as early as possible. It would be better to implement a healthy lifestyle from the first days of children's life – it is necessary to form a habit and desire of being healthy and taking care of health. Moreover, it is well-known that the sooner the disease is identified, the faster and more effective the treatment is (prevention is better than taking medicines). So it would be better to take good care of children from the early years and to teach them to take care of themselves and other people.

Furthermore, medical staff should know the theoretical and practical basis of the measures. In order to organize a better and effective implementation of the measures, medical staff should know what and how to do. Doctors and nurses should be specially trained for implementation of the measures; they should attend special lectures, seminars and conferences on the topic concerned, take advanced training courses, read necessary medical literature, and share their experience with other doctors and nurses. This will help analyze the results of their work and the effectiveness of the measures, identify obstacles on time, analyze the reasons, which caused them, and make necessary changes to improve the situation.

Finally, families and other state and private organizations are involved in this process and facilitate it. The level of people's education, their general and health culture can stimulate people to have healthy lifestyle (that is especially important for families with children as these are parents who form their children's views and lifestyle). Besides, it is necessary to form parents' responsible and conscious attitude to parenthood (early sanitation, healthy impregnation, careful nursing for children). Moreover, for better people's understanding of the importance of reduction in children's incidence and mortality it is necessary to carry out informational-educational work on prevention of infection of diseases. Some private, state and international organizations and funds play significant role in spreading knowledge about healthy lifestyle, fast and early diagnostics of many diseases.

So, high children's incidence and mortality (especially of children of early and pre-school age) and early appearance of chronic diseases indicate the necessity of more active development of preventive pediatrics and preventive medicine on the whole.

3. Conclusions

The present study contributes to valuable insight into medical staff's understanding of the necessity and the essence of implementation of measures for reduction in children's incidence and mortality taken by the medical state institutions in Ukraine. Since in Ukraine the level of children's incidence is constantly growing and the level of children's mortality remains rather high (in comparison with other European countries), it seems evident to

implement the measures under certain conditions, which include early implementation of the measures, active theoretical and practical work of medical staff, support and assistance to families and other state and private organizations and funds. Modern statistic data have shown that implementation of the measures has caused the reduction in the level of children's getting some diseases (infectious, digestive). However, it is necessary to analyze constantly the state of children's incidence and mortality and the problems with implementation of the measures, and to make changes according to the situation that often changes; the peculiarities of children's development and innovative medical discoveries and inventions. For this reason there are some topics for further research. They are the following: organization of interaction of families; different state and private institutions for reduction in children's incidence; organization of nursing for children of different ages in families and schools; detailed analysis of reasons of appearing obstacles while implementing the measures for reduction in children's incidence and mortality.

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Statement of Competing Interests

The author has no competing interests.

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