

# Management of Nursing in Preschool Institutions of Ex-Soviet Countries

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## Abstract

Recently, the activity of preschool institutions experiencing dramatic changes, which lead to the emergence of new requirements for medical care for children. The most important element of health care system is nursery. Current model of nursing is a science and practice aimed to improve the health status of each child. The main purpose of this review is to present different approaches of development of an integrated health care system in kindergartens used in ex-Soviet countries. Systematization of accumulated experience and knowledge will help to develop the system theoretical and practical provisions, when the activities of medical staff of preschool institutions are determined.

**Keywords:** *Nursing; preschool institutions; nurse's role; child.*

## Introduction

Nowadays there is a sharp deterioration in the health status of children, which is one of the most significant problems facing society. Among various age groups, the most vulnerable are children attending preschool educational institutions. For this reason, improvement of health of children in preschool educational institutions is the primary task for pedagogical and medical staff. Kindergartens have been the site for health programming in many countries for long years. Since public education became compulsory in the mid-nineteenth century, the strategic role that pre-school institutions could play in promoting and protecting health became recognized. Nurseries and infant schools soon became the front line in the fight against infectious disease and the hub for providing a wide range of health and social services for children. As times changed, health programs in these institutions have changed to keep pace with the changing needs of children. Definition of pre-school institutions and their purposes. Nurseries/kindergartens are pre-school institutions designed to accommodate children under 6 years<sup>1</sup>. In most countries nursery is a socio-

educational institution aimed for children aged between 3 months and 3 years. Nurseries provide children with appropriate conditions for harmonious development, while collaborating with their parents throughout the whole education process<sup>2</sup>. The kindergarten is a pre-school institution for children aged from 3 to 5 years. It aims at promoting children's development and providing educational activities<sup>3</sup>. Pre-school education is the first stage of basic education that focuses on the balanced development of children's potential, giving them the opportunity to develop their autonomy and socialization skills, preparing them for a successful education path, and supporting the families in children's education<sup>4</sup>.

In recent years, the activity of preschool institutions experienced dramatic changes. These changes include introduction of specialists in different disciplines, such as sports, arts and dance. More attention from teachers and medical staff began to attend to organization of motor activity of children using modern medical equipment complexes. Also much more time is now attended to development of skills of independence, personal qualities and higher mental functions<sup>5</sup>.

## Discussion

**The essence of nursing in preschool:** Usually, medical care for children in preschool institutions on the territory of countries of former Soviet Union is the competence of medical staff serving this institution. It is also controlled by the authorities of sanitary supervision and public education<sup>6</sup>. Means and method of solving the problems of medical support for children in preschool educational institutions are diverse, dynamic in time and changeable. They are developed by various departments and specialists. Approaches to the same problem are often interpreted from opposite positions<sup>7</sup>.

Diagnosis of pre-nosological conditions in children, which can no longer be rated as healthy and, at the same time, are not a disease plays the leading role in health care process of preschool institutions. Active preventive intervention at this stage of possible disease gives the greatest effect and the least material costs.

The greatest amount of preventive work falls on the shoulders of pedagogical staff of preschool educational institution, and doctor with nurse act as methodologists who plan, train and supervise the implementation of this work. Unfortunately, this is not always adequately perceived by educators and their assistants, who often refuse to perform some healthcare measures<sup>8</sup>.

Nursing in a kindergarten as part of the healthcare system is a science aimed at solving existing and potential health problems in changing environment. The purpose of nursing is to carry out a nursing process. The nurse strives to carry out her work professionally, respecting and protecting children's rights and dignity, and helping to improve their relations with society. Recent model of nursing is a science and practice aimed to improve the health status of each child. Nurse is a person who shares the philosophy of nursing and carries out nursing practice professionally and creatively. Nursing is a job performed by a nurse in accordance with her functional responsibilities<sup>9</sup>. These functional responsibilities characterized as maintaining and strengthening of health condition, patient's care and rehabilitation assistance<sup>10</sup>.

Clinical training in nursing is also an essential period in medical students study. It allows students of medical colleges to learn as members of a team, in direct contact with healthy and ill children, and as part of a group in the planning, implementation, and evaluation of comprehensive nursing care based on the acquired

knowledge and skills. Students are expected to develop necessary skills in order to deliver comprehensive health care to children. Students clinical training in this area often takes place in nurseries/kindergartens<sup>11</sup>.

**The health condition of children in preschool institutions.** The Center for Disease Control and Prevention (CDC) noted that six categories of behavior are responsible for about 70% of children mortality and morbidity. These include unintentional and intentional injuries, diseases resulting from inadequate physical activity, and health problems due to inadequate dietary patterns. A significant part of our youth is at risk for dropping out of school as a consequence of a number of health and behavioral problems; further, many children do not have access to basic preventive and primary care<sup>10</sup>.

According to statistics, almost every child attending kindergarten has suffered from flu or other acute infectious disease. Almost every fifth child is under observation with certain chronic disease<sup>13</sup>. Eye diseases lead among other illnesses with 32 cases per 1000 children. Approximately the same frequency (18-22 cases per 1000 children) observed in diseases of nervous, respiratory, digestive and musculoskeletal systems. It turns out that 20% health condition depends on the genotype, 20% on the impact of environment, 50% on the lifestyle, and only 10% on condition of medical care<sup>12</sup>.

According to definition of World Health Organization, human health is the complete physical, mental and social well-being with absence of disease. Such well-being ensured by complex of external and internal factors<sup>14</sup>. Internal factors characterized by the features of morphological and psychological development of the child. One of the main criteria for health is the ability of human organism to adapt to conditions of environment and the ability to carry out activities in various settings.

**According to information of Research Institute of Hygiene of children and adolescents of Russian Federation<sup>15</sup>, there is four basic criteria of children's health:**

1. Level of physical development and its harmony;
2. Level of physiological systems of organism;
3. The absence of disease during examination;

#### 4. The degree of resistance to effects of pathological factors.

Development of the child's body is a process of qualitative and quantitative changes leading to a new, higher level of organization of all physiological systems of the body. This process includes three main interrelated factors: differentiation of organs and tissues, growth and formation.

The child's organism differs from the adult organism with a number of factors:

- Incomplete morphological and functional development of all physiological systems;
- Continuity of growth processes, development and differentiation of organs and tissues;
- High degree of reactivity to on external influences;
- Less resistance to environmental factors;
- Uneven growth and development at different age periods;
- Heterochronism (different periods) of maturation of various functional systems<sup>16</sup>.

With age, the pattern of the most common diseases in children varies: in age under three years most often children suffer from bronchitis, diathesis, rickets, anemia, malnutrition and dental pathology. Further children more affected by adenoids, tonsillitis and otitis. From 3 to 7 years most common diseases of childhood are diseases of digestive system that closely associated with dental caries, diseases of pulmonary system, nervous system, sensory organs and allergic diseases<sup>16</sup>.

The number of children with varying degrees of visual impairment and disease of musculoskeletal system is increasing dramatically. In children in age of 2-4 year functional disorders with the decrease in the body's resistance to diseases, are associated mainly with imperfection of the functions of thermoregulation and immune system are quite often.

Preschool children with abnormal physical development or neuropsychological condition, are usually more vulnerable to different diseases than others. These diseases further reduce their depressed immunity and increase their susceptibility to repeated disorders. Such condition have negative impact to study process of children and their ability to assimilate knowledge due to missed classes and poor performance<sup>17</sup>. Studies

of children's health at different levels of health in a preschool educational institution showed that in pupils of second health group health indicators from the beginning to the end of the year, as well as during the week, decreased more significantly than in children with relatively mild forms of health disorders and healthy children (for 30–35% and 12–15% in relation to the initial level)<sup>18</sup>.

#### **Access to Health Care in pre-school institutions:**

According to National Health/Education Consortium, millions of children in developed countries have inadequate insurance plans that fail to cover even such simple preventive services as immunization. About 12 million children do not get such basic preventive care as periodic physical examinations or immunizations at the proper intervals, and only half of all infant school children routinely receive health care. Moreover, 7.5 children require mental health services, fewer than one in eight actually receives them (GAO, 1994b)<sup>20</sup>.

Access to children health care include concerns beyond mere financial issues. Transportation, convenience, and cultural sensitivity are also factors. Additionally, parental support and encouragement, as well as understanding the importance of health care and how to approach the result, influence the process. Even with access to health care, children may not be receiving the appropriate attention they need. Even children in those families with insurance and family doctors do not receive help from health care professionals for problems of greatest importance for their high-risk behaviors. Many studies have shown that an initial visit to doctor and physical examination for a new patient in pre-school institution should require not less than 30-45 minutes. Although 25% of doctor visits are first encounters, half of all visits last 10 minutes or less, 30% percent last 10-15 minutes, and only 4% are 30 minutes or longer<sup>19</sup>.

The comprehensive pre-school health program that developed in ex-Soviet countries is seen as a new solution needed to deal with the problems of today's children in kindergartens<sup>15</sup>. It became clear to social committees that, although a variety of different models exist, comprehensive programs are still essentially an unrealized ideal in most institutions<sup>21</sup>. Many specialists came into the study with a range of backgrounds, and they determined that it needed to establish their own working definition of the term "comprehensive health program" which would guide further work with children<sup>22</sup>.

**The main preventive activities:** The main priority of the activities carried out in the preschool educational institution is measures to prevent diseases. Currently, a number of infectious diseases are prevented by specific immunization<sup>22</sup>. The incidence of viral infections of respiratory tract constitutes a high percentage of all diseases among preschool age children<sup>23</sup>. The vaccine against flu widely advertised during pre-epidemiological period does not always give expected results, its effectiveness decreases due to variety and variability of viruses<sup>24</sup>. Therefore, method aimed to increase protective mechanisms of the organism itself and to improve resistance to pathogenic, environmental factors play the leading role in the system of health-improving of preschool institution<sup>25</sup>.

The level of child's adaptation to changing environmental conditions have great importance in assessment of health. Leading pediatricians have repeatedly pointed out that non-specific prophylaxis of diseases is based on a set of general strengthening measures that include tempering and provision of full-fledged physical education that adequate to physiological capabilities of the child's body<sup>21</sup>.

The protective reactions of the body enhanced by the systematic and regular use of small doses of the stimulus - low or high temperatures of water or air, and influence of natural factors. As a result, this leads to training of thermoregulation mechanisms and other physiological systems involved in strengthening of immunity.

One of the hallmarks of the Soviet recovery system is hardening. Hardening is an active process, representing a set of method for stimulating the hidden reserves of the body's defenses, improving its flexibility and versatility. It is the development of a conditioned reflex to a particular irritation. Therefore, this is a training process, the construction of which in order to achieve the maximum final effect must be subject to certain physiological laws that underlie the mechanism for generating a conditioned reflex. The biological basis of any training process, including hardening, is adaptation to the acting loads, mainly cumulative adaptation. It is characterized by adaptive changes that occur under the influence of regularly repeated external influences. The properties acquired as a result of cumulative adaptation are stable and persist for some time after the cessation of external influences. Adaptive changes that occur in the child's body during the hardening process go through two stages: transitional and stationary. In the first stage,

the adaptation process itself (hardening) takes place, in the second stage the adaptation state (hardening) is achieved, and if the body is not exposed to new influences or the load is insufficient, the process of readaptation will begin, a gradual return of all body systems to the initial level of functioning<sup>1</sup>. The hardening effect is achieved by a systematic, repeated exposure to a particular hardening factor and a gradual increase in its dosage<sup>3</sup>. Hardening is specific, as it is determined by a gradual decrease in the body's sensitivity only to the action of the hardening factor<sup>5</sup>.

The body of preschool children characterized by insufficient functional condition of physiological systems, the purpose of which is to maintain thermal comfort. Therefore, the children's body responds with adverse reactions even to minor deviations in the weather. It is at an early and preschool age that hardening takes on special significance.

Hardening in a preschool institution is most advisable in the first half of the day before a sleep or immediately after a walk, depending on the season, local and climatic conditions. Also, good hardening agent is the sleep process, if it takes place in a well-ventilated room, under favorable hygienic conditions<sup>8</sup>.

**Anthropometric examination and determination of the degree of physical development** according to its evaluation tables (standards) are the responsibility of nurse and their interpretation is the responsibility of the institution's doctor. Today there is a paradoxical situation when the standards of the 80-90s became unusable due to the changed biogenic situation. The acceleration of the young generation was replaced by stabilization and even a return to lower indicators of physical development of modern children<sup>27</sup>. On the other hand, the development of new regional age-gender standards requires the allocation of absolutely healthy children. Against the backdrop of Russia's economic difficulties, it is very difficult to implement this. Under these conditions, interest in genetic growth standards reappeared, the idea of which belongs to E.A. Shaposhnikov<sup>26</sup>.

Studies conducted by this author, allowed him to establish a number of previously unknown statistical laws of the physical development of children. They are based on the law of repeatability of equal average values of mass and average parameters of proportions with equal average body length. Children of different nationalities, various social groups living in different

territories of country have average body weight and average parameters of the length of body, legs, arms, diameter of the shoulders, pelvis, chest and other somatometric signs, reduced to the same body lengths are approximately the same and remain virtually unchanged during generations.

The lag of growth processes, if it is not associated with the somatic pathology, means inhibition of the development and differentiation of internal organs. The greater lag in physical development of child means the more pronounced changes in the immune system. The change of an anthropometric indicator in the early stages allows doctor to suspect the development of pathology. It could be the emerging growth retardation; the development of dystrophies of various origins, obesity, narrow breasts, often accompanied by various anomalies in the development of the lung, broad chest, as manifestations of an increase in lung volume, micro- and macrocephaly, partially due to hydrocephalus. The physical development of the child depends on specific environmental factors and lifestyle. To assess physical development of group, it is necessary to conduct its individual assessment and give a final assessment of specific gravity of children with good physical development. The physical development of team is considered satisfactory if at least 68% of children have normal harmonious physical development.

In the early 90s of the last century, in the Soviet Union, with a total number of about 90-100 million children, 47-48 million cases of childhood infectious diseases and 36-39 million cases of flu were noted annually. But the incidence rate of diphtheria, whooping cough, measles, and other infection diseases is not determined by the state of science, but depends solely on the setting of preventive and health-improving measures in children's institutions. Preventive work in the preschool educational institution is defined by two main areas, the content of which is clearly delineated.

1. Scheduled preventive maintenance involves a set of measures to increase the specific and nonspecific resistance of the child's organism to adverse external influences and covers all healthy children in preschool education<sup>11</sup>, that is, 1st and 2nd A health groups.
2. Wellness activities include the improvement of children's health from risk groups, primarily children with reduced immunoresistance (children of group 2nd B) and conducting a certain amount

of medical and recreational activities based on the possibilities of preschool education<sup>14</sup>. Therefore, this service is best implemented in specialized health-improving preschool institutions for children with reduced resistance<sup>15</sup>.

### Conclusion

Thus, distinctive feature of the system of organization of medical care in preschool institutions of ex-Soviet countries is comprehensive pre-school health program, which is still the basis of successful development of children. Similar to United States and European countries, nursing plays a significant role in the implementation of preventive measures in preschool institutions. Along with this, the system of child health protection has a number of distinctive features expressed in the application of hardening method for prevention and a special approach to assessing the physical development of children.

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