

**DETERMINATION OF THE PROBLEM IN TERMS OF FUTURE  
DEVELOPMENT OF CHILDREN SANATORIUM-RESORT  
REHABILITATION AFTER COMPLETING SPECIAL TREATMENT OF  
CANCER**

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**Summary.** Organizational and methodological aspects of sanatorium and resort rehabilitation development for children during the cancer remission period are presented. For the first time in Ukraine a package of regulatory documentation about organizational process of sanatorium and resort rehabilitation of children after radical treatment is developed, and also the values of the relative need for health-resort rehabilitation based on the incidence of specific regions are determined. Five sanatorium centers for children under different department subordination and one health center for adult patient population, as «pilot» projects, are an example of the rehabilitation development process in Ukraine.

**Key Words:** cancer, remission period, children, sanatorium and resort rehabilitation

The problem of recovery of the Ukrainian citizens with oncologic diseases is stipulated by the increase of their morbidity rate, long lasting specific treatment and sometimes the development of the complications and concomitant diseases.

During last years the forecast of oncological pathology outcome, life time of the patients and their recovery has researched nearly 70%. The number of recovered children is much more higher at different forms of cancer, for example at lymphogranulomatosis it is more than 90%, at acute lymphoblast leukemia – 75 – 85% [1, 2]. Some statistic data prove that more that 6 % of work-capable adults had manifested oncologic diseases at their childhood [3–5]. The disease itself and its treatment cause different disturbances in a child's physical development, his bone, cardio-vascular, endocrine, immune system and are traumatic for both the child's and his

parents psychic state. The course of teaching process is ruined, the contacts with friends are limited, interpersonal contacts are complicated.

For the first time in Ukraine according to the State programme “The Health of Nation” (resolution of the Cabinet of Ministers of Ukraine dated January the 10<sup>th</sup>, 2002, N14) and State programme “Children’s Oncology” (resolution of the Cabinet of Ministers of Ukraine dated the 1<sup>st</sup> of February, 2006, N58-p; adoption of the Cabinet of Ministers of Ukraine dated the 31<sup>st</sup> of January, 2007, N 106; the order of the Ministry of Health Care of Ukraine, dated the 10<sup>th</sup> of May, 2007, N235) Ukrainian Research Institute for Medical Rehabilitation and Balneology has carried out the research for the development of organizational and methodical principles of sanatorium-and-resort rehabilitation of the children after the completion of the special treatment of malignant growth ( 2007–2012). Today to complete this task three stages of the research have been made:

1<sup>st</sup> stage — scientific substantiation of priority and compatibility of this direction (2007);

2<sup>nd</sup> stage — the research « The development of the system of sanatorium-and-resort rehabilitation of the children with the malignant growth», state registration № 0108U001954 (2008–2010);

3<sup>rd</sup> stage — the development and scientific substantiation of differentiated programmes of sanatorium-and-resort rehabilitation of the children with reference of the most prevailing concomitant diseases with the research «The development of differentiated complexes of sanatorium-and-resort rehabilitation of the prevailing concomitant diseases in children after radical treatment of oncologic pathology», state registration № 0111U004328 (2011 – 2013). Now the process of formation of rehabilitation for the children in remission of oncologic diseases at the conditions of sanatoriums and resorts is going on in Ukraine. It is expedient to carry out sanatorium-and-resort rehabilitation to the children

with oncohematologic diseases and solid tumors at the period of clinical-and-laboratory remission from 2 years.

For the first time the indexes of the relative need for sanatorium-and-resort rehabilitation of the children with malignant growth have been estimated. The morbidity rate (by different Ukrainian regions) has been established as well. The mean index for children is 0.048 of beds, for teen-

ages – 0.050 beds per 1 thousand of children’s population and are the basis for the opening of the necessary amount of rehabilitative beds at the conditions of sanatoriums.

The conception of the creation of the step-by-step system of rehabilitation for the children with oncologic pathology has been developed [6].

The set of legal documentation as to organization of the system of sanatorium-and resort rehabilitation of the children at the period of oncohematologic diseases remission: indications and contra-indication to the choice and admission to the sanatorium for rehabilitation, clinical protocols of the children’s treatment with oncohematologic diseases in sanatorium, three methodical guidelines and four informational letters about differentiated programmes of rehabilitation at the conditions of sanatoriums and polyclinics [7–9]. Scientific ideas became the basis of the orders of the Ministry of health care of Ukraine dated the 12<sup>th</sup> of January, 2009, № 4 « The order of admission of the children to the treatment in sanatoriums depending on medical signs to sanatoriums and resorts (except TBC)»; dated the 28<sup>th</sup> of May, 2009, № 364 «About the approval of clinical protocols for sanatorium-and-resort treatment of children at sanatoriums and resorts of Ukraine»; dated the 22<sup>nd</sup> of October, 2012, № 825 «About the changed to the order of admission of the children to the treatment in sanatoriums (except children with TBC), adopted by the order of the Ministry of Health Care, dated the 12<sup>th</sup> of January, 2009, № 4 (registered in the Ministry of Law of Ukraine on the 3<sup>rd</sup> of February, 2009, № 100/16116)». The order of the Ministry of Health Care of Ukraine, dated the 9<sup>th</sup> of April, 2009, N 237 has determined two sanatoriums for organization of the rehabilitation of the children at the remission of oncologic disease. They are V. P. Chkalov’s clinical sanatorium (Odessa) and sanatorium “Dzherelo” (Truskavets)”. Twenty beds have been allocated in each sanatorium. Then, according to the order of the Ministry of Health Care, dated the 12<sup>th</sup> of November, 2012, № 922 the 80-bedded rehabilitative unit has been opened in the sanatorium “Morskoy” (Yevpatoriya). Besides the sanatoriums mentioned, Ministry of Health Care has organized sanatorium-and-resort rehabilitation of the children at remission of oncologic diseases in the sanatoriums of different

departmental belongings. These are branch establishment “Sanatorium “Tavrida” of the CAS “Ukrprophzdravnitsa” and Children’s Medical Rehabilitative Centre “Emerald” of the Ministry of Domestic Affairs of Ukraine (both are in Yevpatoriya).

The rehabilitation of the adult patients has been organized in SE “Sanatorium “Dneprovsky” of CAS “Ukrpropfzdravnitsa” (Dnepropetrovsk). Here more than a thousand of persons, mostly women after radical treatment of malignant tumors, had been at rehabilitation at the last three years [10]. Separately we should mention rehabilitation of the children at the stage of remission of oncologic pathology at the conditions of polyclinics in a day in-patient department in CE “Kherson clinical municipal hospital named after O. C. Luchansky” (Kherson). Here starting from 2010 the rehabilitation was organized for 114 children.

The expediency of an early rehabilitation of the children with oncologic diseases has been scientifically substantiated by the way of example of the polyclinic of the SE “Ukrainian Research Institute for Medical Rehabilitation and Balneology of the Ministry of Health Care of Ukraine” (Odessa). The rehabilitation of the children who have a supporting treatment has been organized here.

The creation of the system of sanatorium-and-resort rehabilitation for the children at the stage of remission of malignant growth by the way of example of five children’s sanatoriums of different departmental belongings and one sanatorium for adults as pilot projects constitute the practical value of the organizational-methodical work under discussion.

During 2008–2010 complex sanatorium-and-resort rehabilitation was conducted for only 282 children at the period of oncologic diseases remission at V.P. Chkalov’s sanatorium, “Dzherelo”, “Tavrida”, “Emerald”. But by the 1<sup>st</sup> of January, 2013, 1292 children got sanatorium-and-resort rehabilitation, including those who visited sanatorium 2-4 times.

Differentiated programme of rehabilitation was administered by the research workers of the Ukrainian Research Institute for Medical Rehabilitation and Balneology. The programme took into account the concomitant diseases. Asteno-neurotic syndrome (ANS), functional disturbances of hepatobiliary system (HB) and gastrointestinal tract, chronic respiratory diseases prevailed.

The researches done resulted in substantiated administration of separate physical factors, internal and external balneological treatment, some methods of psychological support [11–14]. Scientifically substantiated differentiated programmes of rehabilitation have been introduced into practical activity of rehabilitative units. This promotes decrease of ANS symptoms (at 3.6 times), vegetative disbalance (at 2.7 times), increase of general resistance to intercurrent diseases (the morbidity rate has decreased at 3.5 and 5 times during their stay at the conditions of a sanatorium at the period of remission of oncologic disease till 5 and more years). For the first time the differentiated scheme of the natural waters of weak mineralization inner use has been worked out. The waters are from eight deposits from the Ukrainian east, west and south regions. Drinking courses of mineral water are of special importance in the programmes of rehabilitation as they promote decrease of endogen intoxication, improve the function of HB system and gastrointestinal tract. But sanatorium-resort treatment of the children in Truskavets may be carried out only at relapses-free period of remission not less that 5 years with accompanying disturbances of HB, urinal system. This leads to the improvement of locomotive activity of the gall bladder in 45.5% of cases at the spasm of gall bladder sphincters and in 80.0% of cases at a slight shortening of the gall bladder, the patients feel themselves better because the amount of complaints decreases at 2.7 times, and they are not so promoted.

The recurring administration of the complex programmes of rehabilitation during 3-4 years encourages increase of cardio-vascular system functional possibilities: after the first course of sanatorium treatment at 12%; after the second- at 11.3%; after the third 3-го — at 14.0%, after the fourth — at 18.4%), regulation of vegetative balance, decrease of the signs of neurotism, anxiety (at 2.7 times), fear, positive psycho emotional mood forms also. The improvement of the general non-specific resistance, immunoendocrine state, increase of an organism adaptive possibilities due to decrease of the signs of endogen intoxication and formation of the processes of recovery of the damaged functions of the body have been marked. Under these conditions a stable improvement of

the total resistance (at 49.9%) is forming. This leads to the decrease of the morbidity with acute respiratory viral infections at 3.6 cases.

Today the target-oriented administration of definite physical factors is stipulated. It takes into account functional disturbances of the main body's systems and accompanying pathology in the children with haemablastoses, and the most widely spread solid tumors (malignant growth of the brains, kidneys, soft tissues). Three patents are obtained: patent N 52780 (UA), IPC A61H 33/04, bulletin № 17, 2010. «The method of sanatorium-and-resort rehabilitation the children with oncologic diseases with the use of vortical local baths»; patent 66978 (UA), IPC A61N 1/18, bulletin № 2, 2012. « The method of sanatory-and-resort rehabilitation of the children with oncologic diseases with the use of electric sleep»; patent 79482 (UA), IPC A61N 33/14, bulletin № 8, 2013. « The method of sanatorium-and-resort rehabilitation of the children with oncologic diseases with the use of dry CO<sub>2</sub> baths». The work was awarded with the prize of regional competition of innovative projects in the nomination «The best innovative ecological project» (25.05.2012, Odessa).

In consultation with the Ministry of Health Care together with the Research Institute for Medical Rehabilitation and Balneology and chief specialists of the Ministry ( children's haematologist, oncologist), doctors of the sanitary-and-resorts establishments and children's hematologists, oncologists, chief paediatricians, the seminars- meetings are conducted as to the main aspects of the organizational-and-methodical measures for rehabilitation of the children at the different periods of oncologic diseases remissions ((2010 — Odessa; 2012 — Truskavets, 2013 — the meeting will be held in Yevpatoriya).

On the example of the pilot projects under discussion the efficacy of the new trend of sanatorium-and-resort of children's rehabilitation has been determined in three regions of Ukraine (South, West, East). These measures will favour the increase of functional reserve and compensatory possibilities of a body, improvement of social adaptation, quality of life of the children at different periods of oncologic diseases remission. Scientific design as to the creation of the system of sanatorium-and - resort rehabilitation of the children after treatment of malignant growth are

competitive in comparison with the existing works of domestic scholars and foreign analogues. As it does so, the complex approach to the development of differentiated programmes of rehabilitation with the use of modern laboratory indexes of immuno-endocrine level, informative instrumental researches, block of psychic examination of the sick children and accompanying them mothers, integrated estimation of compensatory-and-adaptive potential has been used.

Organizational-and-methodical developments are introduced in the practical activity of the sanatorium-and-resort rehabilitation of the children in remission of malignant growth at the conditions of three Ukrainian regions (Odessa, Yevpatoriya, Truskavets). The efficacy of recurrent rehabilitative courses on the basis of increase of the body functional reserves and quality of life of the sick children is probative from the point of view of the further development of the united system of sanatorium-and-resort rehabilitation of the contingent under study. But it should be mentioned separate tasks which should be decided for the further development of the children's sanatorium-and-resort rehabilitation.

First of all, the selection of the children for sanatorium-and-resort rehabilitation with taking into account psycho-somatic condition at different periods and concomitant diseases should be improved. The nearest dwelling should be taken into account to. The use of differentiated programmes of rehabilitation with substantiated administration of the complex of physical factors and continuation of the standards of rehabilitation after the treatment of solid tumours work out should be mentioned. The necessity of the opening of not less than ½ bedding net in sanatoriums and resorts for sick children of preschool and midchildhood age and their parents stay should be mentioned as well.

Thus, for the first time in Ukraine the complex of organizational-and-methodical measures for organization of the system of sanatorium-and-resort rehabilitation of the children who had finalized special therapeutic courses of malignant growth has been developed on the example of three sanatoriums of the Ministry of health care and the ones of different department subordination at the resorts of Yevpatoriya, Odessa, and Truskavets. This is in agreement with the trends of top priority in the development of science, technique and innovative activity.

Prospect of this direction of work is in further development of step-by-step system of rehabilitation of children in different periods of remission after the completion of the special courses of treatment because of malignant growth.

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