

**CREATIVE AND ART/EXPRESSIVE THERAPY
AS COMPLEMENTARY APPROACH AT THE CHILDREN'S HOSPITAL
HEMATOLOGY/ONCOLOGY DEPARTMENT:
EXCERPTS FROM CASE STUDIES**

DAMIR MIHOLIĆ^{1,3}, MIROSLAV PRSTAČIĆ^{1,3}, JASMINKA STEPAN²,
BRANKO NIKOLIĆ¹ and ALIJETA VOJNOVIĆ^{1,3}

¹Department of the Study of Motoric Disturbances, Chronic Disease and Art-Therapies,
Department for Statistics, Information Technology and Rehabilitation, Faculty of Education
and Rehabilitation Sciences, University of Zagreb, Zagreb, Croatia

²Hematology/Oncology Department, Children's Hospital Zagreb, Croatia

³ Croatian Psychosocial Oncology Association, Zagreb, Croatia

Summary

In terms of modern approaches to psychosocial oncology and sophrology, the paper shows some experiences with creative and art/expressive therapies used as complementary approaches to complex treatment and rehabilitation of a 12-year-old girl with the clinical picture of a pilocytic astrocytoma with neurofibromatosis, and a 14-year-old boy with an osteosarcoma of the right maxilla. The study was conducted at the Hematology/Oncology Department, Children's Hospital, Zagreb. The assessment was performed using the six-variable model of BASIC Ph, self-report measures of stress reaction including the Aqua test, and visual art expression (*drawings and mandala colorigrams*) to analyze the child's latent (introspective) psychoemotional experiences during therapy. Original data for controlled variables were processed using the INDIFF analysis of changes. The study results demonstrate the value of including complementary supportive therapies to develop coping mechanisms and improve the quality of life of the child.

The excerpts from case studies were prepared as part of a scientific research project on "Complementary Supportive Therapies and Development of Life Potentials", supported by the Ministry of Science, Education and Sports of the Republic of Croatia.

KEYWORDS: *malignant disease, coping mechanisms, art/expressive psychotherapies, rehabilitation, psychosocial oncology*

**KREATIVNA I ART/EKSPRESIVNA TERAPIJA KAO KOMPLEMENTARNI PRISTUP
NA ODJELU ZA HEMATOLOGIJU I ONKOLOGIJU KLINIKE ZA DJEČJE BOLESTI:
IZVODI IZ STUDIJA SLUČAJA**

Sažetak

U okviru suvremenih pristupa u psihosocijalnoj onkologiji i sofrologiji prikazana su neka iskustva o primjeni kreativne terapije i art/ekspresivne terapije kao komplementarnih pristupa u kompleksnom liječenju i rehabilitaciji djevojčice u dobi od 12 godina s kliničkom slikom pilocitičkog astrocitoma, neurofibromatoze; te dječaka u dobi od 14 godina s kliničkom slikom *Osteosarcoma maxillae l. dex*. Studija je provedena na Odjelu za hematologiju i onkologiju Klinike za dječje bolesti u Zagrebu. U svrhu evaluacije korišteni su model BASIC Ph sa šest kontroliranih varijabli, ljestvice za samoprocjenu reakcije na stres uz primjenu Aqua testa, te likovno izražavanje (*crtež i kolorigram mandale*) u svrhu analize latentnih (introspektivnih) psihoemocionalnih iskustava u djeteta tijekom terapije. Izvorni podaci za kontrolirane varijable obrađeni su programom analize promjena primjenom algoritma INDIFF. Rezultati istraživanja upućuju na vrijednost primijenjenog komplementarnog suportivno-terapijskog pristupa u razvijanju mehanizama suočavanja i u podržavanju djetetove kvalitete života.

Ovi izvodi iz studija slučaja pripremljeni su u okviru znanstvenog projekta «Komplementarne terapije i razvoj životnih potencijala», pod potporom Ministarstva znanosti i tehnologije Republike Hrvatske.

KLJUČNE RIJEČI: *maligna bolest, mehanizmi suočavanja sa stresom, art/ekspresivne psihoterapije, rehabilitacija, psihosocijalna onkologija*

INTRODUCTION

As part of their childhood cancer program, the Union for International Cancer Control - UICC stress the need for "...Sustainable provision of treatment; specifically chemotherapy and associated supportive therapies and equipment." These needs have been demonstrated by epidemiological indicators of cancer like the second most common cause of death after accidents and the estimated 90,000 childhood cancer deaths annually in low and middle-income countries. In the St. Jude Children's Research Hospital, one of the world's premier pediatric cancer research centers, located in Memphis, Tennessee, USA, an epidemiological study was carried out to show that the five-year survival rate for different types of malignancy significantly increased from 1962 to 2008 (Figure 1). Such a trend may result from advancements in oncology and also other disciplines taking part in the complex treatment and rehabilitation, actually in different complementary types of psychosocial support and palliative care.

Treatment for most childhood cancer is extremely aggressive and, for some children, more painful than the disease itself. Children and ado-

lescents experience numerous and complex symptoms, and problems during and after treatment for cancer (1). The most common symptoms recognized by Hockenberry (2) include "... fatigue, sleep disturbance, and pain resulting in reduced physical performance and behavior changes. The quality of life for a child with cancer is influenced by the intensity of the symptom cluster and the symptom experience may ultimately influence the child's development." Hinds (3) reports that children hospitalized on a general pediatric unit lose 20-25% of their usual amount of sleep and those in intensive care lose as much as 54%. Common reasons include noise, lights, lack of control, separation from parents, unfamiliar environment, loss of normal routine, anxiety/pain, procedures conducted during the night and pain.

The problem field in children with malignancy includes neurofibromatosis and astrocytic tumors, and different types of osteosarcoma. To the larger medical and non-medical community neurofibromatosis type 1 (NF1) is also known as peripheral neurofibromatosis or von Recklinghausen disease named after the German doctor – pathologist, Frederic Daniel von Recklinghausen (1833-1910) who, in his book published in 1882,

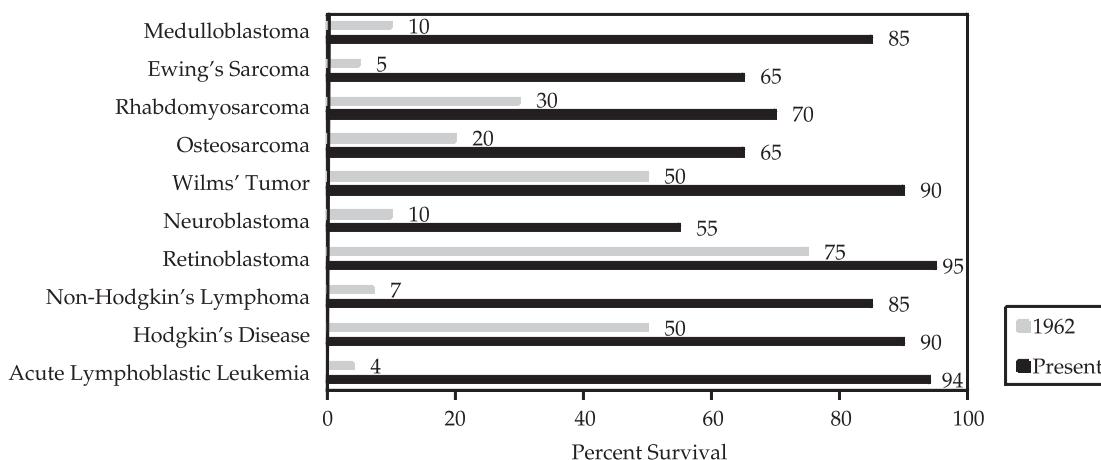


Figure 1. Five-year cancer survival rates in 1962 vs. rates over the last 10 years (i.e. 2008) based on the studies conducted in the St. Jude Children's Research Hospital

first disclosed his observations on the real nature of characteristic cutaneous and subcutaneous nodules – *fibromas*. For the finding that each fibroma contains a small peripheral nerve he called them neurofibromas and the disease was subsequently named neurofibromatosis.

Although pharmacological interventions to reduce pain and anxiety in pediatric cancer patients are available, many clinicians try to limit their use because of feared long-term neurological side effects. For this reason there is an increased interest in the use of nonpharmacological behavioral methods including different types of art/expressive and creative therapies for distress reduction, and accordingly, as reported by Prstačić (4) and other authors as well, such approaches are being developed, especially in the interdisciplinary field of psychosocial oncology, sophrology, and art/expressive supportive (psycho)therapies.

PROBLEM FIELD AND GOAL

One of the primary problems encountered in the treatment and rehabilitation of the child with malignancy includes differential diagnostics for existential anxiety (*fear, pain, sleep disorders, nausea, learning and communication difficulties...*) and the study of efficiency of complementary supportive education and therapies aimed at developing appropriate coping mechanisms and support of the child's quality of life.

The aim of this clinical study was to study the effects of complementary art/expressive and creative therapies designed to meet the child's needs, and recognize the changes in his/her psychoemotional and psychosocial behavior during hospitalization.

HYPOTHESIS

The expressive arts psychotherapies combine visual arts, movement, drama, clinical dance, music, writing and other creative processes to foster deep personal growth and community development. Ex-Gen creative therapy is an integrative approach combining education, somatherapy and psychotherapy. Within this approach, as stated by Prstačić (5), "... physical, auditory, rhythmical, iconic... mental images in an individual inspire the process of creation between the 'before'

and the 'after' and thus provoke and contain ecstasy (Ex) and genesis (Gen)". Breathing exercises and sophronization (*induction of special states of consciousness of a subject*) may be used in the beginning of the complementary therapy program in order to help reduce physiological arousal (i.e., anxiety) and to facilitate attentional distraction, deep-breathing exercises are taught during therapy sessions and then carried out during scheduled treatments. The use of fairy tales in bibliotherapy, and dramatherapy can also be combined with other creative (*Ex-Gen*) and art/expressive therapy methods (*for example, drawing, visual art expression, body symbolization ...*). In this fashion, Bruno Bettelheim (1903 – 1990) analyzed fairy tales in terms of Freudian psychology. He discussed the emotional and symbolic importance of fairy tales for children. Music in therapy can be an effective complementary approach to achieve specific therapeutic outcomes in the clinical management of pediatric oncology patients (6-8), as well as relaxation and guided imagery as a method of distraction in which attention is focused away from an undesirable sensation (9-11).

The above knowledge can be used to frame an initial hypothesis according to which the use of art/expressive therapies tailored to meet the child's particular needs affects the development and support of child's *self-confidence, social relationships and spontaneity as the induced intrinsic motivational energy to create coping mechanisms*.

Art/Expressive Psychotherapy and Ex-Gen Creative Therapy

Gilroy (12) gives a useful overview of art-based assessment, identifying three approaches: 1. Psychoanalytic: these look for symbolic representation of unconscious material in art works; 2. Phenomenological: these try to give an overview of the client, their behavior and art-making processes and include consideration of the work itself and what is said about it; 3. Diagnostic: these analyze the artwork in terms of its formal elements, that is, the color, space, composition, visual, coherence and so on, considering them as diagnostic indicators. Along with these aspects, Prstačić et al. (4) also use biological markers as complementary variables (*for example, "... immune changes in response to child's stress related to cancer – reaction to mitogens, NK cell activity, etc. ...*).

Hawkins et al. (13) and Barnes (14) reported that clinical hypnosis and guided imagery may be an effective nonpharmacologic intervention that has the integrative care of many other common pediatric problems as well-documented role in pediatric pain control, anxiety relief, periprocedural coping and coping with hospitalization.

MATERIALS AND METHODS

The clinical study included a girl of the chronological age of 12 years with the diagnosis of *Astrocytoma pilocyticum*, *neurofibromatosis* and a 14-year-old boy with *Osteosarcoma maxillae*, admitted to the Hematology/Oncology Department of the Children's Hospital in Zagreb.

In the girl's case, controlled variables using art/expressive supportive psychotherapies over a 30-day period were evaluated at the beginning of treatment and after each of twelve therapy sessions. In accordance with the therapy protocol designed to meet the child's needs the following techniques were used: *therapeutic breathing and psychophysical relaxation, and sophronization using music and guided imagery; interpretation of a fairy tale or any other literary story chosen by the child to be the intermediary object; pictorial illustration in six scenes according to a modified model of BASIC Ph.*

Variables and assessment tools

The research design stemmed from the rare opportunity to obtain data in real time, from the



Figure 2a. Art/expressive psychotherapy (child/patient and rehabilitator/sophrologist in therapy communication)

will to understand the issue of coping and resiliency and from the belief that it is important to learn from the children themselves what their stress reactions were and what helps them cope. For this reason it was decided to use self-report measures of stress reactions and coping resources by applying the BASIC Ph model and Aqua test.

The photographs presented in Figures 2a and 2b are an excerpt from the photo documentation available. Figure 2a shows a photograph taken during art/expressive supportive psychotherapy performed by a rehabilitator – sophrologist, and Figure 2b shows the Aqua test applied in self-report measurement of stress reaction to analyze child's latent psychoemotional experiences of fear and joy during the treatment.

Aqua test in self-report measurement of stress reaction

In his studies on the development of anthropological structures of imagination, Durand (15) writes that in the development of human consciousness, water has always been deeply connected to man's life experiences, existential needs and symbolic expression. While discussing therapeutic effects of water on the development of child's psychomotorics, Potel (16) also relates early experiences from the intrauterine aquatic environment with the archetypal body image, and therefore to the development of perceptual dispositions for a space-time orientation, fetal motility and intentional behavior. Piaget (17) refers to the



Figure 2b. Aqua test application in self-report measurement of stress reaction

Husserl's (1859-1938) explanation of "quasi qualitative" moments and "figural" moments in the development of perceptual consciousness. He thought that consciousness represents intentional experiences, and that intentional behavior is "an act of consciousness stretching out towards its object". Much earlier, Goelenius (1547-1628), making a resume on scholastic thinkers, wrote that „actus mentis qui tendit in obiectum“ ("all mental acts are directed to objects"), which in psychoanalytic interpretation could also be discussed in relation to the development of body cathexis (in fact, *in psychodynamics, cathexis is defined as the process of investment of mental or emotional energy in a person, object, or idea...*). In his book "The Child Conception of Number", Piaget (17) wrote: "Every notion, whether it be scientific or merely a matter of common sense, presupposes a set of principles of conservation, either explicit or implicit. It is a matter of common knowledge that in the field of the empirical sciences the introduction of the principle of inertia (*conservation of rectilinear and uniform motion*) made possible the development of modern physics, and that the principle of conservation of matter made modern chemistry possible." Therefore, "usually at about the age of 4 and a half - 5 years, the child's quantitative judgements are thus based only on the general shape of the set and on global relationships." Gradually, however, *with the development of perceptual-cognitive, psychoemotional and psychosocial functions in child's behavior the progress* "lies in the precision brought to the analysis of shapes and qualities, which results in a deeper understanding of the intuitive data." At this level, as Piaget put it, *there can be no doubt that the child understands what is required of him, since he spontaneously transfers the liquids (water...) from one container to another in his attempts to measure and verify the relationships between quantitative and qualitative data (more or less long, more or less wide, more or less sad and more or less happy...)*. Combining all this knowledge, Prstačić develops a concept of the Aqua test based on self-report measurements of stress reaction, as a complementary and supportive approach to the analysis of dynamics of latent psychoemotional experiences (of the child) of cancer patients. For this purpose, and within the assessment protocol, Prstačić (5,18) uses induced variables (*induced associations*) that the investigator/therapist records during the observation and therapeutic communication.

Shacham and Lahad (19) and Ayalon (20) state that the model of BASIC Ph model is based on the Applied Psychology Approach and it relates to six major coping modalities at the core of an individual's coping style: Beliefs and Values, Affect, Social, Imagination, Cognition and Physiology, and further explain: "...Everyone has the innate ability to utilize each dimension as part of their approach towards coping, although, most people tend to rely upon comfortable coping methods that have been developed over time. Coping efforts are considered to be effective as long as a child can sustain his or her basic routine by providing the environment, modeling, and encouragement necessary to help them strengthen and build new skills". Prstačić (18) introduces some modifications to the BASIC Ph model and uses such modified model as a complementary therapeutic approach and an evaluation instrument in art/expressive and creative therapy for children with cancer.

RESULTS AND DISCUSSION

Original data for controlled variables and the variables of the BASIC Ph Model (**B** – *Beliefs and Values*, **A** – *Affect*, **S** – *Social*, **I** – *Imagination*, **C** – *Cognition* and **Ph** – *Physiology*) and the child's self-reported measures of stress reaction by using the Aqua test, were processed by the INDIFF model of analysis of changes (21, 22). The results have been processed at the Department for Statistics, Information Technology and Rehabilitation at the Faculty of Education and Rehabilitation Sciences, University of Zagreb. Table 1 shows the results of testing the significance of child's behavior change components before and after therapy, reported for variables A, S, I, C and Ph.

The analysis of change tendencies using the BASIC Ph model showed that during therapy, the child developed coping mechanisms as manifested in the change of affectivity (*a sense of security and self-esteem*). Using the Aqua test (AQT), changes in terms of bringing higher values to the child's experience of self after therapy sessions were also reported. These changes were observable in both the content and the number of induced variables.

This is both a complementary clinical approach and an assessment tool based on classical psychoanalytic free association technique. After

Table 1.

RESULTS OF TESTING THE SIGNIFICANCE OF CHILD'S BEHAVIOR CHANGES (COPING MECHANISMS) FOR VARIABLES A, S, I, C AND PH, BEFORE AND AFTER THERAPY

Significance of change components tested using the INDIFF model for BASIC Ph, before therapy (for variables A, S, I, C, Ph)			
Variables	Characteristic values	Cumulative variance	% Common variance
A	2.23	2.23	44.68
S	1.44	3.67	73.41
I	.80	4.47	89.48
C	.45	4.92	98.48
Ph	.08	5.00	100.00

Testing the significance of change components					
Component	Lambda	F	DF1	DF2	Significance
1.	2.23	2.22	16	44	.042

Significance of change components tested using the INDIFF model for BASIC Ph, after therapy (for variables A, S, I, C, Ph)			
Variables	Characteristic values	Cumulative variance	% Common variance
A	2.43	2.43	48.68
S	1.19	3.63	72.57
I	.75	4.38	87.56
C	.47	4.84	96.89
Ph	.16	5.00	100.00

Testing the significance of change components					
Component	Lambda	F	DF1	DF2	Significance
1.	2.43	2.61	16	44	.020

therapy sessions, a larger number of associations (induced variables) was reported, and these results may be considered as a form of freeing up of the child's spontaneity (*reduction of the existential dimension of fear*), and a more positive relationship with the self, her own body and the environment.

Prophylactic and therapeutic function of creativity in the case of a boy with maxillary osteosarcoma

A boy diagnosed with *Osteosarcoma maxillae l. dex* presented the experience of himself in therapy shown in Figure 4. During therapy, the boy produced a mandala colorigram and through color symbolism provided the projective expression of his latent urges, frustrations, anguishes and wishes (23).



Figure 4. A mandala drawing by a 14-year-old boy, Dg: Osteosarcoma maxilla e I. dex

The drawing shows how an induced esthetic experience (satisfaction) elicited during a complementary art/expressive therapy session affects the child's symbolic visual expression of topics related to his body, disease, health, hopes, taking and giving. C. G. Jung (1876-1961) interpreted mandalas as a space reflecting the personality projection at moments when an individual is guided in a special way to try out a drawing or a graphic symbol to describe his/her actual experience, and used this approach in his analytical psychology. The boy commented his drawing as follows: "I feel like a feather drifting miles away in the light summer breeze. The feather is in the air, floating between a turquoise sea and the setting sun. The sun is going down creating a beautiful, colorful sunset. I feel like I'm walking along a long sandy beach, swimming in the ocean, watching a beautiful sunset in the colorful sky." Besides usual interpretation through the representation of colors in a drawing, the mandala colorigram produced by the boy during a therapy session could also be interpreted through the symbolism of colors used. The body is brightened up with yellow, loses its contours and seems like broken free from its materiality. With regard to esthetic satisfaction, the therapy effect could be interpreted in light of the archetype of renewal, or an accumulation of life energy when facing the disease. Red is the color of fire and blood. On the one hand, it symbolizes warmth, and on the other hand, anguish and a danger signal. Physiologically, it raises blood pressure, muscle tension and breathing

rate, and could be interpreted as a form of the body's strength canalized to fight the disease. In addition, the color blue and the symbolism of a bird feather lifted by the undulatory motion of a water surface that occupies the central part of the mandala drawing, can evoke associations of the transcendental dimension of child's serenity and hope, as his psychoemotional experience in therapy.

It might be appropriate here to bring to mind the work of the art educator Victor Lowenfeld (24) who believed that the art process contributed to many aspects of children's creative and mental growth is one of the most important influences on the practice of creative and art/expressive therapy. He was somewhat influenced by psychoanalytic concepts of his time and coined the term "art education therapy" to describe a therapeutic and educational use of art activities with children.

CONCLUSION

Complementary clinical interventions with both verbal and drawing components promote progress in art/expressive therapy. The quality of the therapeutic relationship between the child (patient) and the therapist and the progress of the therapy are reflected in art expression. When a safe holding place for the imagery is successfully provided, increased *therapeutic alliance* is revealed through the change in art expression. These case reports in the field of childhood and psychosocial oncology establish the clinical value of complementary supportive therapy to maintain the child's *induced intrinsic motivational energy and coping mechanisms*, and/or child's *self-confidence, social relationships and spontaneity* during the complex treatment and rehabilitation.

REFERENCES

1. Ruland et al. The complexity of symptoms and problems experienced in children with cancer: A review of the literature. *J Pain Symptom Manage* 2009; 37(3): 403-18
2. Hockenberry M, Hooke MC. Symptom clusters in children with cancer. *Semin Oncol Nurs* 2007; 23(2): 152-7
3. Hinds PS. Clinical field testing of an enhanced-activity intervention in hospitalized children with cancer. *J Pain Symptom Manage* 2007; 33(6): 686-97
4. Prstačić M, Eljuga M, Matijević A, Nikolić B, Čepulić M, Stepan J. Psychosocial oncology. Croatian Review for Rehabilitation Research. Zagreb: Faculty of Education and Rehabilitation Sciences University of Zagreb, 2004; 40(1): 77-90
5. Prstačić M. Extasis and genesis – science, art, and creative therapy in psychosocial oncology and sophrology. Zagreb: Medicinska naklada, 2003
6. Stouffer JW, Shirk BJ, Polomano RC. Practice guidelines for music interventions with hospitalized pediatric patients. *J pediatr nurs* 2007; 22(6): 448-56
7. Robb SL. A non-randomized controlled trial of the active music engagement (AME) intervention on children with cancer. *Psycho-oncology* 2008; 17(7): 699-708
8. Barrera M, Fleming CF, Khan FS. The role of emotional social support in the psychological adjustment of siblings of children with cancer. *Child: Care, Health & Development* 2004; 30(2): 103–111
9. Polkki T et al. Imagery-induced relaxation in children's postoperative pain relief: A randomized pilot study. *J Pediatr Nurs* 2008; 23(3): 217-24
10. Huth M. Imagery reduces children's post-operative pain. *Pain* 2004; 110: 439–48
11. Rossman M. Guided imagery in cancer care. *Semin I Med* 2004; 99-106
12. Gilroy A. Art therapy, research and evidence-based practice. London: SAGE Publication, 2006
13. Hawkins et al. Hypnotherapy for control of anticipatory nausea and vomiting in children with cancer: Preliminary findings. *Psycho-Oncol* 1995; 4(2): 101-6
14. Barnes A, Kohen D. Clinical hypnosis as an effective adjunct in the care of pediatric inpatients. *J Pediatr* 2006; 563-5
15. Durand G. Les structures anthropologiques de l' imaginaire. Paris: Bordas, 1984
16. Potel C. Psychomotricité entre la theorie et pratique. Paris: In Press Editions, 2000
17. Piaget J. The child's conception of number. London: Routledge and Kegan Paul, 1952
18. Prstačić M. Psychosocial oncology and rehabilitation. (bilingual edition: Croatian and English). Zagreb: Medicinska naklada, 2006
19. Shacham M, Lahad M. Stress reactions and coping resources mobilized by children under shelling and evacuation. *Australas J Disaster Trauma Stud* 2004; 2
20. Ayalon O. Spasimo djecu – Priručnik grupnih aktivnosti za pomoć djeci u stresu. Zagreb: Školska knjiga, 1995
21. Momirović K, Karaman Ž. INDIFF: Model, algoritam i program za analizu promjena stanja nekog objekta opisanog nad skupom kvantitativnih varijabli. *Kineziologija* 1982; 13(2): 5-8
22. Nikolić B. Modeli za analizu promjena nastalih uključivanjem kompjutera u transformatorske procese kod osoba s teškoćama socijalne integracije. *Defektologija* 1991; 2: 77-97

23. Miholić D. Psychosocial oncology, art/expressive therapy and sophrology as complementary approaches in analysis of coping in a child with malignant disease. Unpublished master thesis, ERF University of Zagreb 2011
24. Lowenfeld V, Brittain W. Creative and mental growth. New York: Macmillan, 1987

Author's address: Damir Miholić, M.A., University of Zagreb, Faculty of Education and Rehabilitation Sciences, Department of Motoric Disturbances, Chronic Diseases and Art Therapies, Borongajska 83f, 10000 Zagreb, Croatia. E-mail: damir@erf.hr