

A STUDY OF THE EFFICIENCY OF MUSIC THERAPY, ART AND PLAY THERAPY ON HOSPITALIZED CHILDREN DIAGNOSED WITH CHRONIC ILLNESSES

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SUMMARY. Prolonged hospital stays are an unpleasant experience at any age, especially during childhood, when children have a reduced ability to understand medical situations. Often, hospitalization leads to increased emotional discomfort in both children and their families. Sadness, fear, and sometimes anger is more pronounced in hospitalized children than others. The purpose of this study is to highlight the effectiveness of alternative therapeutic interventions. Thus, we analyzed the extent to which music therapy and play and art therapy have a useful role in the emotional optimization of children diagnosed with chronic diseases. The study found that both intervention methods (music therapy and therapy through play and art), regardless of how they work (individually or in groups), are effective in reducing emotional distress in children hospitalized with chronic diseases.

Keywords: music therapy, play therapy, hospitalized children, chronic diseases

1. Introduction

During the academic year 2019/2020, the students and Faculty of the Music and Social Work Departments of Emanuel University of Oradea, Romania implemented a project called *Harmonies and Therapies for Children with Special Needs*³, through which they offered alternative therapies to children diagnosed with progressive chronic illnesses, who also faced prolonged hospital stays. During this time, there were 47 therapy sessions,

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through which students and faculty conducted music therapy and art and play therapy sessions through games and artistic activities aimed at reducing the level of anxiety and fear in children, while also raising their perceived level of joy. The beneficiaries were 322 children, out of which 20 children received individual therapy sessions, and 302 children were engaged in group therapy activities. We conducted individual sessions with children diagnosed with chronic progressive diseases, who were either admitted to the oncology section of the Municipal Clinical Hospital "Dr. Gavril Curteanu" from Oradea, either at home, being cared for by the "Hospice Emanuel" Foundation, who are specialized in palliative work.

We conducted the group sessions at The Băile Felix Medical Recovery Hospital, where the therapy teams worked with children that have special needs. One hundred ninety-one children benefited from music therapy sessions, and 131 children benefited from therapy and art therapy sessions. Each session was prepared through a procedure plan, which was then evaluated by a therapy analysis in which the patient's cooperation was observed. Also, the students and faculty looked at the progress the children made in interpretation or improvisation, and the effect of the therapy. The procedure plans had clear objectives and goals that took into account the emotional and social well-being of the child or group of children, depending on the setting.⁴

The general objective of this study is to highlight the impact of alternative therapies on the emotional wellbeing of hospitalized children with chronic illnesses. Specifically, this study monitored the facial expression, emotional disposition, and behavior of hospitalized children before and after the music, play, and art therapy sessions. The role of these alternative therapies is to reduce tension, anxiety, and fear in hospitalized children and to help them manage their negative emotions.

2. Context

The benefits of alternative therapies, such as music therapy, art therapy, and play therapy, have been analyzed and proven in a significant number of publications. Given that many children develop post-traumatic stress symptoms because they perceive medical interventions as being invasive and traumatic,⁵ psychosocial therapies are vital.

⁴ Berger, Dorita S., *On Developing Music Therapy Goals and Objectives*, in *Voices, A World Forum for Music Therapy*, March 2009, vol. 9, no. 1, <https://doi.org/10.15845/voices.v9i1.362>, date accessed 2 October 2019.

⁵ Kazak, Anne E., Kassam-Adams, Nancy, Schneider, Stephanie, Zelikovsky, Nataliya, Alderfer, Melissa A., Rourke, Mary, *An integrative model of pediatric medical traumatic stress*, in *Journal of Pediatric Psychology*, May 2006, Vol. 31, no. 4, pp. 343-55, <https://doi.org/10.1093/jpepsy/jsj054>.

Generally, music therapy „is provided to hospitalized children to support the treatment goals of all team members, including those in the medical team and the psychosocial team.”⁶ A study written by Sheri L. Robb⁷ demonstrated the help that music therapy sessions have in providing necessary structure and improving the level of enjoyment while helping hospitalized children gain autonomy. In this regard, the impact of music therapy on hospitalized children has been illustrated in a study⁸ that compared the effects of reading with those of music interaction or no interaction. The purpose of this research was to see if the observed benefits came from human interaction or music per se. The results clearly show that music itself had the most benefits in helping the children's wellbeing. Another research conducted by Manu E. Barrera⁹ et al., demonstrated the positive outcome of interactive music therapy sessions on children hospitalized with cancer. The children's mood was assessed through schematic face tests, and their parents and hospital staff were asked to complete pre and post-therapy questionnaires, indicating their perceived opinion on the child's emotional wellbeing.

A study¹⁰ conducted on sixty hospitalized children during music therapy and play therapy sessions showed an exciting outcome, as there was a difference in the perceived happiness of children involved in these sessions. The results showed that children tended to be happier, analyzed as the number of smiles in three minutes, during music therapy sessions by comparison to play therapy sessions. While this result does not mean that play therapy is not essential or beneficial, it does prove that in some instances, music therapy can provide the necessary stimulus for children's emotional well-being. It is important to note at this time that the results of this present study showed that there were no perceived differences in children benefitting in music therapy or play and art therapy.

⁶ Edwards, Jane, Kennelly, Jeanette, *Music Therapy for Hospitalized children*, in *The Oxford Handbook of Music Therapy*, Oxford University Press, London, 2016, p. 53.

⁷ Robb, Sheri L., *Designing Music Therapy Interventions for Hospitalized Children and Adolescents Using a Contextual Support Model of Music Therapy* in *Music Therapy Perspectives*, Vol. 21, no.2, 2003, pp. 27-40, <https://doi.org/10.1093/mtp/21.1.27>.

⁸ by Longhi, Elena, Pickett, Nick, Hargreaves, David J., *Wellbeing, and Hospitalized Children: Can music help?*, in *Psychology of Music*, Vol. 43, nr. 2, 2015, pp. 188-196, <https://doi.org/10.1177/0305735613499781>.

⁹ Barrera, Maru. E., Rykov, Mary H., Doyle, Sandra L., *The effects of interactive music therapy on hospitalized children with cancer: a pilot study*, in *Psycho-Oncology*, Ed. John Wiley & Sons, New Jersey, 2002, vol. 11, pp. 379-388. <https://doi.org/10.1002/pon.589>, date accessed 25 September 2018.

¹⁰ Hendon, Catherine, Bohon, Lisa, *Hospitalized children's mood differences during play and music therapy*, in *Wiley Online Library*, 16 April 2007, <https://doi.org/10.1111/j.1365-2214.2007.00746.x>, accessed 4 October 2019.

Music therapy can also play an essential role in supporting children during medical procedures, through active engagement when appropriate, or through providing the child with distraction and entertainment. In this case, the music therapist is in constant communication with the medical staff and must continuously evaluate the state of the child in order to make the best choices regarding the music therapy intervention.¹¹

One of the most important languages of children is play and it is also one of the most natural ways in which children communicate. As a result, play therapy can be a very effective way to help a child adjust to the traumatic experience of hospitalization.¹² Play therapy¹³ focuses on children's natural predisposition to communicate through play.¹⁴ A study¹⁵ conducted on the burn unit in a pediatric setting showed that children who received directed medical play provided by a child life specialist experienced less trauma associated with the necessary medical procedures. Another study analyzed the positive effects of play therapy on children hospitalized in two of the largest hospitals in Hong Kong.¹⁶ These findings are not surprising, as hospitalized children have a great need to express their feelings and convey their challenges in a safe environment.¹⁷ Some of the most common play therapy methods are medical play, therapeutic play, and normative play; each method having benefits in helping children express their fears and anxieties.¹⁸

¹¹ Mondanaro, John F., *Surgical and Procedural Support for Children*, in *Guidelines for Music Therapy Practice in Pediatric care*, Joke Bradt (ed.), Ed. Barcelona Publishers, New Braunfels, Texas, 2013, p. 224.

¹² Sheuli, Sen, *A Study to Assess the Effectiveness of Play Therapy on Anxiety among Hospitalized Children*, in *International Journal of Advanced Research*, vol. 5, no. 8, 2015, pp. 1540-1546.

¹³ Councill, Tracy, *Art Therapy with Pediatric Cancer Patients: Helping Normal Children Cope with Abnormal Circumstances*, in *Art Therapy: Journal of the American Art Therapy Association*, vol. 10, no. 2, 1993, pp. 78-87.

¹⁴ Landreth, Gary L, *Therapeutic limit settings in the play therapy relationship*, in *Professional Psychology: Research and Practice*, Vol. 33, no. 6 December 2002, 529-535, <http://dx.doi.org/10.1037/0735-7028.33.6.529>

¹⁵ Study by Moore, Elizabeth R, Bennett, Katherine L., Dietrich, Mary S., Wells, Nancy, *The Effect of Directed Medical Play on Young Children's Pain and Distress During Burn Wound Care*, in *Journal of Pediatric Health Care*, Vol. 29, no. 3, May-June, 2015, 265-273, <http://dx.doi.org/10.1037/0735-7028.33.6.529>.

¹⁶ Li, William H.C., Chung, Joyce Oi Kwan, Ho, Ka Yun, Kwok, Blondi Ming Chau, *Play interventions to reduce anxiety and negative emotions in hospitalized children*, in *Boston Medical Center Pediatrics*, vol. 36, 2016, <https://bmcpediatr.biomedcentral.com/articles/10.1186/s12887-016-0570-5>.

¹⁷ Webb, Judy R., *Play Therapy with Hospitalized Children*, in *International Journal of Play Therapy*, vol. 4, no. 1, 1995, pp. 51-59.

¹⁸ Burns-Nader, Sherwood, Hernandez-Reif, Maria, *Facilitating play for hospitalized children through child life services*, in *Journal of Children's Health Care*, vol. 45, no.1, 2016, pp. 1 -21.

Art therapy is similar to music and play therapy in the sense that it facilitates a form of non-verbal communication, which for children who are hospitalized and have a hard time coping with this trauma, is very important. The difference in art therapy is that it uses art and crafts materials as a form of expressing emotions. Another benefit of art therapy is that it allows the children to freely choose what project and materials to use, this being significant in a context in which children lose control over their day to day activities.¹⁹ A pilot study aimed at analyzing the effects of art therapy on children who experienced trauma related to hospitalization showed that children who benefitted from such therapies had decreased cortisol level post-therapy. This study demonstrates that one of the immediate benefits of art therapy is a perceived decrease in fear and anxiety. Art therapy can also provide support for painful medical procedures, as children who benefitted from art therapy experienced fewer traumatic symptoms by comparison to children who did not benefit from such interventions.²⁰ One of the most resounding benefits of art therapy is that it helps children deal with situations that bring extreme stress, such as an illness, prolonged hospital stays, or invasive medical procedures.

Given the results of the existing studies, we tested to see if they would be applicable in the Romanian hospital system, in the case of children hospitalized with chronic illnesses.

3. Methodology

For the music therapy sessions, the methods utilized were based on the Nordoff-Robbins model²¹, using a creative model with a focus on improvisation and composition. The sessions were centered on improvisation, which „is a process whereby it makes up music, and opens oneself to the subjective and objective criticism of that music.“²² Spontaneous vocalizations or rhythmic games were frequently used, as children responded very well to these techniques. In the instances in which the children benefitting from music therapy sessions were feeling ill or lacking energy, receptive music methods

¹⁹ Wood, Michèle J.M., *What is Art Therapy?*, in *Art Therapy in Palliative Care, The Creative Response*, Eds. Mandy Pratt and Michèle J.M. Wood, Ed. Routledge, New York, 1998, p. 5.

²⁰ Favaro-Scacco, Cinzia, Smirne, Giuseppina, Schiliró, Gino, Di Cataldo, Andrea, A, *Art therapy as support for children with leukemia during painful procedures*, Wiley Online Library, 15 March 2001, <https://doi.org/10.1002/imp.1112>, accessed 4 October 2019.

²¹ Nordoff, Paul, Robbins, Clive, *Creative Music Therapy: A Guide to Fostering Clinical Musicianship, Second Edition*, Ed. Barcelona Publishers, New Braunfels, TX., 2007.

²² Wigram, Tony, *Improvisation. Methods and Techniques for Music Therapy Clinicians, Educators, and Students*, Ed. Jessica Kingsley, London and Philadelphia, 2004, p. 27.

proved to be beneficial, especially in a multi-modal approach using besides sound, elements of touch, and general ambiance.²³ One of the most important benefits of music therapy interventions was the increased level of self-esteem and joy that the children experienced.

Regarding the art therapy interventions²⁴, every child that benefitted from art therapy was involved in creating an art project to the best of their ability. Illustrative examples are painting projects, drawing projects, and sometimes even crafts. Art therapy is an excellent tool in getting children to express their feelings without using verbal communication, which for some children with chronic illnesses, is a difficult task. Art therapy also comfortably encouraged social interaction, as the group sessions had everyday tasks that were performed better in a group setting. The play therapy sessions were set up in a room where "centers" were set up so that each center had a student or faculty present. There were four centers with four different activities. Some play activities at the centers were bubbles to blow, balloons to use as balls or keep in the air, bowling pins and ball, Velcro dartboard, 25 piece puzzles, wooden puzzles with small finger grips for each piece, plastic fishing poles with magnets at the end to catch magnetic fish, stickers, coloring books, and noisemakers, such as maracas, drums, etc.

The most popular toys were the bubble blowers, balloons to keep in the air, bowling pins, and the Velcro dartboard. Children with different physical disabilities appreciated the Velcro dartboard and wooden puzzles with finger grips because they could participate in these activities, which were difficult to do in a traditional setting.

For every play therapy session, the therapy focused on socialization skills and the development of the individual patient, explicitly trying to accomplish play on their own with little to no frustration and guiding them in ways to challenge themselves to try the activity, even when they felt they could not do it because of their disability.

We evaluated the sessions through clinical observation sheets that analyzed the impact that the therapy had on the child. Three major categories were analyzed:

- a. facial expression,
- b. behavior,
- c. emotions.

Regarding the facial expression, we recorded the following elements:

- a. gaze, whether or not they avoid eye contact;

²³ Grocke, Denise, Wigram, Tony, *Receptive Methods in Music Therapy*, Ed. Jessica Kingsley Publishers, London, 2007, pp. 77-79.

²⁴ We thank Mrs. Raelene Soritau and Mrs. Silvia Cocetov, from the Child Life Romania Association for their guidance and expertise in the art and play therapy sessions.

- b. the level of brightness in the eyes, whether it is noticeable or not;
- c. if the corners of the lips are up or down;
- d. the position of the head, if it is down, lateral, straight, or up.

In the behavior domain, the evaluated components were:

- a. body position, if it indicates avoidance, acceptance or even embrace;
- b. language, if the child avoids, is mute, uses words or sentences;
- c. motor behavior 1, whether the child is immobilized or mobile;
- d. motor behavior 2, if they avoid or want to touch.

In the third category, the following emotions were assessed on a scale from 1 (very low) to 5 (very high): joy, tranquility, agitation, anger, fear, disappointment.

4. Assumptions, variables, and design

There are significant differences regarding the emotional and behavioral characteristics of the hospitalized children according to the number of participants in the therapeutic intervention sessions. There are also significant differences regarding the facial expression, emotional disposition and behavior of the hospitalized children before and after the intervention through music therapy and therapy through play and art, with a reduction of negative emotions and control of the unfavorable behaviors. There were independent variables such as the number of participants, individual sessions, or group sessions, and the type of intervention, music therapy, or therapy through play and art. Dependent variables were: facial expression, emotions, behaviors. The design used was experimental, bifactorial, and mixed (inter and intragroup). The processing of the data obtained from the observation of children before and after the sessions of music therapy and therapy through play and art were carried out with the SPSS program, and nonparametric methods of data processing were used, due to the number of sessions conducted throughout the project (N = 47). The statistical tests used are the U-test (Mann-Whitney) for intergroup comparisons and the Wilcoxon test for intra-group comparisons.

5. Results of analysis

5.1. Intergroup comparative study

We analyzed the data obtained in two research phases: before the intervention (phase 1) and after the intervention through music therapy or therapy through play and art (phase 2). The intergroup comparisons were made according to two independent variables: the number of participants in the therapy sessions (individual or in groups) and the type of intervention (music therapy or therapy through play and art).

5.2. Comparison according to the number of participants

Following the analysis of the data, we can observe that there are significant differences in the first observation phase between those who participated individually or in group sessions, regardless of whether they were part of a music therapy or therapy through play and art intervention. Thus, before the intervention (phase 1) it is clear that (see Table 1) those who participated individually in any intervention were more open to the therapists than those who participated in the group sessions (test $U = 141$; $p = 0.001$; mean ranks 1 (individual) = 30; mean ranks 2 (group) = 19).

At the same time, this study found that from an emotional point of view, the children who participated individually in the intervention sessions were more balanced than the children in the intervention groups, and they also reported a higher level of joy ($U = 109$ test; $p = 0.001$; mean ranks 1 (individual) = 32; mean ranks 2 (group) = 18), quieter (U test = 135; $p = 0.003$; mean ranks 1 (individual) = 30; mean ranks 2 (group) = 19) and less agitated (test $U = 159$; $p = 0.008$; mean ranks 1 (individual) = 18; mean ranks 2 (group) = 28).

In the second phase of observation, these differences disappeared, so children in both categories were open towards the therapists (55% accepted the therapist, 45% embraced the therapist) and felt the same: the level of joy increased significantly (24% high, 68 % very high level), the level of peacefulness was also at a higher level (26% high level, 49% very high level) and the degree of agitation decreased significantly (71% very low level, 21% low level).

Table 1

Phase	Variable	U Test	p	Average ranks
Phase 1	Body Language	141	0.001	1 = 30 2 = 19
	Joy	109	0.001	1 = 32 2 = 18
	Peacefulness	135	0.003	1 = 30 2 = 19
	Agitation	159	0.008	1 = 18 2 = 28
Phase 2	Eyes	202	0.007	1 = 20 2 = 26
	Head	108	0.001	1 = 15 2 = 30

(1 = individual; 2 = group)

Intergroup comparison according to the number of participants

Even if, in the first phase of observation, there were no significant differences between the two categories of children (in individual or group interventions) regarding the brightness of their eyes and the position of the head, this changed in the second phase of observation, after the therapeutic intervention. Thus, the children who participated in the group music therapy

and group therapy through play and art showed a higher level of brightness in the eyes (test $U = 202$; $p = 0.007$; average of ranks 1 (individual) = 20; average of ranks 2 (group) = 26) and a position of head that indicated a higher level of engagement – the position of the head was upwards (test $U = 108$; $p = 0.001$; mean of ranks 1 (individual) = 15; average of ranks 2 (group) = 30) than the children who attended individually in sessions.

5.3. Comparison between the types of therapeutic interventions

The data were analyzed both in the initial phase and after the therapeutic interventions. There were no significant differences between the two groups, between those who attended music therapy sessions and those who attended play and art therapy sessions. Thus, we found that in both groups, before the therapeutic intervention, there were children with a high degree of sadness and apathy. At the same time, post-intervention, in both groups, positive changes are observed, indicating the efficiency of the applied methods (see intra-group comparisons).

5.4. Intra-group comparative study

Following the analysis of the data through the Wilcoxon comparison test, significant differences were found in all three domains (facial expression, social behavior and emotions), between the observation data from the pre- and post-intervention phases. The results are presented in Table 2.

Table 2

Variable	Z	p	Sum of ranks
Look	-4.79	0.001	d(-) = 0 d(+) = 276 (n=23)
Eye brightness	-4.12	0.001	d(-) = 0 d(+) = 153 (n=17)
Position of lips	-4.58	0.001	d(-) = 0 d(+) = 231 (n=21)
Position of head	-4.30	0.001	d(-) = 0 d(+) = 253 (n=22)
Position of body	-4.83	0.001	d(-) = 0 d(+) = 325 (n=25)
Verbal language	-5.23	0.001	d(-) = 0 d(+) = 435 (n=29)
Socialization	-4.20	0.001	d(-) = 0 d(+) = 231 (n=21)
Group Rules	-3.99	0.001	d(-) = 0 d(+) = 171 (n=18)
Joy	-5.10	0.001	d(-) = 0 d(+) = 561 (n=33)
Peacefulness	-2.23	0.02	d(-) = 25 d(+) = 110 (n=13)
Agitation	-2.82	0.005	d(-) = 74 (n=11) d(+) = 3
Fear	-4.07	0.001	d(-) = 231 (n=21) d(+) = 0

(d(-) = values decrease in the post-intervention phase; d(+) = values increase in the post-intervention phase)

Intra-group comparison, pre-post intervention (N=47)

In the sphere of facial expression, the data show that in 23 cases of therapeutic sessions, the expression and gaze of the hospitalized children improved ($Z = -4.79$; $p = 0.001$; $d (+) = 276$). Thus, in the pre-intervention phase, 51% avoided visual contact, and in the post-intervention phase, only 1% avoided looking at the therapist. Regarding the brightness of the eyes, there is also a significant improvement in this area ($Z = -4.12$; $p = 0.001$; $d (+) = 153$).

In 17 therapy sessions, the brightness of the eyes in children improved in the post-intervention phase compared to the pre-intervention phase. The position of the lips ($Z = -4.58$; $p = 0.001$; $d (+) = 231$) and the position of the head ($Z = -4.30$; $p = 0.001$; $d (+) = 253$) indicate the improvement of mood in the post-intervention phase. In this way, in 21 therapy sessions, we found that at the beginning of the sessions, the children had the corner of their lips down, indicating sadness or apathy, and at the end of the intervention, they had the corners of the lips up, indicating a smile. Regarding the position of the head, in 22 sessions, at the beginning of the therapy, the children had their heads bent downwards, indicating either apathy or sadness, but at the end of the sessions, their heads were raised, indicating interest and a positive mood.

In the field of social behaviors, there were also noted improvements. For example, in 25 intervention therapy sessions, children became more open, and this was also communicated through their body language ($Z = -4.83$; $p = 0.001$; $d (+) = 325$). If at first, 23% avoided physical touch, and 11% expressed a desire to be embraced, in the post-intervention phase, 45% wanted to be embraced, and no child avoided physical touch. In the area of verbal language ($Z = -5.23$; $p = 0.001$; $d (+) = 435$) in 29 cases the data show that the participants became more verbal, thus in the pre-intervention phase, 13% avoided verbal communication and 70% communicated only in isolated words, and in the post-intervention phase, 70% communicated through complex sentences, indicating a positive relationship with the therapists.

If the hospitalized children participated in group intervention sessions, this was analyzed to see how they socialize and accept group rules. In these cases, also, improvements are noted. In 21 examples of group intervention, the degree of socialization ($Z = -4.79$; $p = 0.001$; $d (+) = 276$) of the children changed from withdrawal and passivity (71%) in the pre-intervention phase to the cooperation and open behavior (87%) in the post-intervention phase. And if in the pre-intervention phase, 13% behaved in a nonconformist manner and were impertinent, only 26% being cooperative, in the post-intervention phase, 77% became cooperative and accepted the group rules ($Z = -3.99$; $p = 0.001$; $d (+) = 171$).

In the area of emotions in the post-intervention phase, the intensity of agitation decreases ($Z = -2.82$; $p = 0.005$; $d (-) = 74$) and fear ($Z = -4.07$; $p = 0.001$; $d (-) = 231$), and the intensity of joy increases ($Z = -5.10$; $p = 0.001$; $d (+) = 561$); while the peacefulness also increases ($Z = -2.23$; $p = 0.02$; $d (+) = 110$). In 33 sessions, the cumulation in the intensity of joy was identified. If in the pre-observation phase, 53% were with a very low level of joy, and only 32% with a high or very high level of joy, this situation changed in the post-observation phase, when only 6% remained with a very low or low level of sadness and **92% of the children were with a high or very high level of joy.**

Also, in 13 sessions, the level of peacefulness was observed. For example, in the pre-observation phase, 22% had a low level of peacefulness, and 59% of children had an adequate level of silence. In the post-observation phase, this situation changed, so that only 12% of the children remained with a low level of silence, and 75% of the children had a high or very high level of silence. The agitation of the children decreased after 11 sessions, and the emotion of fear decreased in 21 sessions. In the area of anger, there were no significant changes since this emotion was low or very low in the pre-observation phase in 92% of the children.

Conclusions and limitations

This research was the result of a nine-month project that included forty-seven music, art, and play therapy sessions with children diagnosed with chronic illnesses. The sessions were conducted individually in the cases in which children had immunity issues, such as pediatric cancer patients in the oncology ward, or group sessions, with children hospitalized in the Rehabilitation Hospital. Given the traumatic effect of prolonged hospitalization stays on children, the purpose of these therapy sessions was primarily to help children deal with fear and anxiety related to medical situations and procedures, but also to help normalize their experience as much as possible. In order to assess, if the therapy sessions fulfilled their aim, we completed clinical observation sheets before and after each session. We also wanted to analyze if there is a difference in the effectiveness of music therapy by comparison to play and art therapy, as indicated in some of the presented research. The data processing was done with the SPSS program, and nonparametric methods of data processing were used due to the number of sessions conducted throughout the project ($N = 47$). The statistical tests The U-test (Mann-Whitney) was used for the intergroup comparisons and the Wilcoxon test for intra-group comparisons.

The music therapy sessions primarily used the Nordoff-Robbins technique, with an emphasis on improvisation, while in the art therapy sessions, children created an art project through which they could convey their emotions. When the art therapy sessions were conducted in a group setting, the therapist encouraged social interaction between children. Play therapy was necessary in explaining to children the medical procedures that they were experimenting with but was also effective in distracting children from their fear and anxiety. All therapeutic interventions were successful in elevating the level of perceived happiness in the children that participated.

The data collected shows that regarding the difference between individual and group therapy settings, in the first observation phase, there were significant differences that were eliminated in the second observation phase. These differences were concerning the attitude towards the therapist, the children in individual therapy being more open towards the therapist than children in a group setting. Also, the perceived level of joy was higher in the individual setting than in the group setting. The intra-group analysis showed noticeable improvements in many categories, regardless of the therapeutic intervention. One of the most significant components that highlighted the effectiveness of these therapy sessions was the component of joy, which showed that 92% of the children had a high or very high level of joy following the therapeutic interventions.

This paper concludes by stating that alternatives therapies, such as music, art and play therapy, used in helping children with chronic illnesses, who experienced prolonged hospital stays, are shown to have a beneficial impact in reducing anxiety and increasing the level of joy. The implication of these findings point to a need for children's hospitals in Romania to consider including music, art, and play therapists to their staff, for the benefit of hospitalized children with fear and anxiety.

The limitation of this study consists of a reduced number of children analyzed, and future research would benefit from expanding the number of children that benefit from alternative therapies and also analyzing the potential difference that would result from different geographical locations within the country.

REFERENCES

- Barrera, Maru. E., Rykov, Mary H., Doyle, Sandra L., *The effects of interactive music therapy on hospitalized children with cancer: a pilot study*, in *Psycho-Oncology*, Ed. John Wiley & Sons, New Jersey, 2002, vol. 11, pp. 379-388. <https://doi.org/10.1002/pon.589>, date accessed 25 September 2018.

- Berger, Dorita S., *On Developing Music Therapy Goals and Objectives*, in *Voices, A World Forum for Music Therapy*, March 2009, vol. 9, no. 1, <https://doi.org/10.15845/voices.v9i1.362>, accessed 2 October 2019.
- Burns-Nader, Sherwood, Hernandez-Reif, Maria, *Facilitating play for hospitalized children through child life services*, in *Journal of Children's Health Care*, vol. 45, no.1, 2016
- Councill, Tracy, *Art Therapy with Pediatric Cancer Patients: Helping Normal Children Cope with Abnormal Circumstances*, in *Art Therapy: Journal of the American Art Therapy Association*, vol. 10, no. 2, 1993, pp. 78-87.
- Favaro-Scacco, Cinzia, Smirne, Giuseppina, Schiliró, Gino, Di Cataldo, Andrea, A, *Art therapy as support for children with leukemia during painful procedures*, Wiley Online Library, 15 March 2001, <https://doi.org/10.1002/mpo.1112>, accessed 4 October 2019.
- Grocke, Denise, Wigram, Tony, *Receptive Methods in Music Therapy*, Ed. Jessica Kingsley Publishers, London, 2007.
- Hendon, Catherine, Bohon, Lisa, *Hospitalized children's mood differences during play and music therapy*, in *Wiley Online Library*, 16 April 2007, <https://doi.org/10.1111/j.1365-2214.2007.00746.x>, accessed 4 October 2019.
- Kazak, Anne E., Kassam-Adams, Nancy, Schneider, Stephanie, Zelikovsky, Nataliya, Alderfer, Melissa A., Rourke, Mary, *An integrative model of pediatric medical traumatic stress*, in *Journal of Pediatric Psychology*, 2006, Vol. 31, no. 4, pp. 343-55, <https://doi.org/10.1093/jpepsy/jsj054>.
- Landreth, Gary L., *Therapeutic limit settings in the play therapy relationship in Professional Psychology: Research and Practice*, Vol. 33, nr. 6, December 2002, pp. 529-535, <http://dx.doi.org/10.1037/0735-7028.33.6.529>
- Li, William H.C., Chung, Joyce Oi Kwan, Ho, Ka Yun, Kwok, Blondi Ming Chau, *Play interventions to reduce anxiety and negative emotions in hospitalized children*, in *Boston Medical Center Pediatrics*, vol. 36, 2016, <https://bmcpediatr.biomedcentral.com/articles/10.1186/s12887-016-0570-5>
- Longhi, Elena, Pickett, Nick, Hargreaves, David J., *Wellbeing, and Hospitalized Children: Can music help?* In *Psychology of Music*, Vol. 43, no. 2, 2015, pp. 188-196, <https://doi.org/10.1177/0305735613499781>.
- Mondanaro, John F., *Surgical and Procedural Support for Children*, in *Guidelines for Music Therapy Practice in Pediatric care*, Joke Bradt (ed.), Ed. Barcelona Publishers, New Braunfels, Texas, 2013.
- Moore, Elizabeth R, Bennett, Katherine L., Dietrich, Mary S., Wells, Nancy, *The Effect of Directed Medical Play on Young Children's Pain and Distress During Burn Wound Care* in *Journal of Pediatric Health Care*, Vol. 29, no. 3, May-June, 2015, pp. 265-273. <http://dx.doi.org/10.1037/0735-7028.33.6.529>.
- Nordoff, Paul, Robbins, Clive, *Creative Music Therapy: A Guide to Fostering Clinical Musicianship, Second Edition*, Ed. Barcelona Publishers, New Braunfels, TX., 2007.
- Robb, Sheri L., *Designing Music Therapy Interventions for Hospitalized Children and Adolescents Using a Contextual Support Model of Music Therapy*, in *Music Therapy Perspectives*, Vol. 21, nr.2, 2003, pp. 27-40, <https://doi.org/10.1093/mtp/21.1.27>.

- Sheuli, Sen, *A Study to Assess the Effectiveness of Play Therapy on Anxiety among Hospitalized Children*, in *International Journal of Advanced Research*, vol. 5, no. 8, 2015.
- Wigram, Tony, *Improvisation. Methods and Techniques for Music Therapy Clinicians, Educators and Students*, Ed. Jessica Kingsley, London and Philadelphia, 2004.
- Wood, Michèle J.M., *What is Art Therapy?*, in *Art Therapy in Palliative Care, The Creative Response*, (Eds.) Mandy Pratt and Michèle J.M. Wood, Ed. Routledge, New York, 1998.