

ENHANCING PSYCHOSOCIAL DEVELOPMENT THROUGH EXTRACURRICULAR MOTOR ACTIVITIES IN PEDIATRIC PALLIATIVE CARE: A CASE STUDY

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Abstract. *Background.* Children with life-limiting conditions frequently face social isolation, reduced functional autonomy, and limited participation in educational activities. In this context, the integration of physiotherapy into structured extracurricular programs becomes essential for supporting psychosocial development and enhancing overall quality of life.

Objectives. The study aimed to investigate the impact of extracurricular motor activities on the social, emotional, cognitive, and communication skills of children in palliative care settings, highlighting the therapeutic potential of motor-recreational interventions.

Methods. The case study involved a child with a primary diagnosis of Cerebral Palsy, who participated in a summer camp designed for children with incurable conditions. The intervention included adapted group physical exercises, functional interactive motor games, and themed multisensory workshops tailored to the child's cognitive and physical level. Data were collected through direct observation and the administration of the *Strengths and Difficulties Questionnaire (SDQ)*.

Results. Significant improvements were observed in social interaction, emotional expression, and participation in group activities. The participant demonstrated increased self-confidence, reduced anxiety during interactions with other children, and active engagement in collaborative tasks. Motor activities—particularly aquatic and sensory-based interventions—contributed to enhancements in body schema and postural control.

Conclusion. Extracurricular motor programs that include components of adapted physiotherapy have a major impact on the psychosocial development of children with progressive chronic conditions. Integrated approaches contribute to reducing physical discomfort and facilitating social inclusion, while strengthening self-esteem by providing an emotionally supportive environment in which children feel safe.

Keywords: Pediatric palliative care, psychosocial development, inclusive education, physiotherapy.

Introduction

In the contemporary context of inclusive education and child-centered healthcare services, extracurricular motor activities gain particular importance in supporting the overall development of children, especially those with chronic conditions in palliative care settings (Fluss & Lidzba, 2020). These activities represent structured forms of movement conducted outside the standard school curriculum, possessing strong educational, recreational, and therapeutic value. They provide valuable



opportunities for self-expression, strengthening interpersonal relationships, and optimizing cognitive, motor, and psycho-emotional functions (Furumasu et al., 1996).

Particularly, children facing life-limiting conditions, such as those with a primary diagnosis of Cerebral Palsy, are frequently excluded from traditional educational and social systems (Livingstone & Field, 2015). The lack of social interaction, physical isolation, and decreased functional autonomy contribute to imbalances in psychosocial development. In this regard, the integration of movement therapy within extracurricular motor activities offers an interdisciplinary approach aimed not only at addressing the functional component but also the symbolic-relational dimension of the child receiving palliative care (Gefen et al., 2020).

Physiotherapy integrated into extracurricular activities involves adapting therapeutic objectives to a playful, multisensory, and non-institutionalized environment, where the child is stimulated through play aiming to improve body schema and postural control, increase self-confidence, and strengthen relational abilities—key aspects for quality of life in pediatric palliative care. Thus, motor activity is not perceived as a therapeutic obligation but as a source of joy, meaning, and belonging (Bray et al., 2020).

The specialized literature supports that extracurricular motor interventions, when personalized and integrated into the child's life, can contribute to reducing anxiety symptoms, developing emotional regulation skills, and promoting overall well-being (Field et al., 2016). This type of holistic intervention aligns with the philosophy of pediatric palliative care, which aims not only at pain and symptom management but also at providing psychosocial and spiritual support to the child and family (Rosenberg et al., 2019).

Extracurricular motor activity is more than a recreational extension of physical education; it constitutes an environment with profound formative and therapeutic potential, where the body becomes language and movement serves as a bridge to others (Ogonowska-Slodownik et al., 2024). Within the context of integrated physiotherapy, it promotes the child's active participation, encourages autonomy, and reinforces the therapist's role as a facilitator of psychosocial and functional development (Martínez-Rodríguez et al., 2025).

The summer camp experience for children with life-limiting conditions offers a rare opportunity to live childhood authentically, free from the constant pressure of clinical monitoring or functional restrictions (Livingstone & Field, 2020). It is a space where the child is no longer perceived as a patient, but as an active participant in a social and recreational setting. The camp thus becomes a form of life normalization, fostering a positive perception of one's body and the capacity for interaction and movement. In palliative care, the camp is not merely a summer activity—it is a ritual of hope, joy, and connection (D'Arrigo et al., 2020). It is an expression of every beneficiary's right to experience childhood—to explore, to be seen, and to be valued despite the condition they live with. Through adapted motor activities, the child reclaims the body as a living space—capable of expression, interaction, and relationship-building (Field & Livingstone, 2018). The role of these activities within the camp setting is to support the child's motor and cognitive development, strengthen social interactions, provide sensory stimulation, emotional support, and foster connection with nature—and, implicitly, with the family (Adar et al., 2017).

The aim of this research is to analyze the impact of extracurricular motor activities integrated into an adapted summer camp on the psychosocial and motor development of a child receiving palliative care, with a focus on improving body schema and postural control as essential components. The objectives of the research focused on identifying changes in the child's social, emotional, and relational behavior following participation in adapted extracurricular motor activities conducted within the camp setting; and analyzing the influence of adapted motor exercises on the development of body schema and postural control within a non-formal therapeutic program based on the principle of individualization.

Research Question: To what extent does participation in extracurricular motor activities conducted within an adapted summer camp contribute to the improvement of psychosocial development, body schema, and postural control in a child receiving palliative care?

Methodology

The case study focused on the progression of a 12-year-old subject with a primary diagnosis of Cerebral Palsy and a secondary diagnosis of polymorphic dyslalia, along with non-epileptic paroxysmal manifestations. All necessary measures regarding data protection and confidentiality were observed through informed consent procedures.

The research was conducted during the summer camp organized by the Hospice Casa Speranței Foundation, held in Adunații Copăcenii over the course of one week, from July 21 to 25, 2024. The camp hosted a total of 30 participants, including both beneficiaries and their siblings, and was supported by a multidisciplinary team composed of a physician, nurse, social worker, psychologist, physiotherapist, speech therapist, and volunteers from the United Kingdom.

The objectives of the camp were structured as follows: development of physical, cognitive, and social skills through educational activities; promotion of autonomy and self-confidence; reduction of stress levels and enhancement of psychological well-being; improvement of conflict-resolution skills; promotion of cultural diversity and tolerance; support of creativity and imagination; and encouragement of a healthy lifestyle.

Additionally, the program focused on improving both verbal and nonverbal communication, fostering environmental responsibility, and encouraging self-expression through theatre, dance, and music, as well as promoting active cooperation between volunteers and children. The staff received preparatory training sessions aimed at enhancing creativity and planning activities within an interdisciplinary framework, with an emphasis on empathy, adaptability, group dynamics in vulnerable populations, and understanding cultural diversity and inclusion (Livingstone & Paleg, 2021), taking into account inclusion and exclusion criteria for participating children. Volunteers were assigned at a ratio of 1 to 4 children to ensure safety and continuous support. Each morning of the camp began with a group warm-up session (see Fig. 1).



Figure 1. Morning warm-up gymnastics.

On the first day of the camp, name tags were distributed, the project theme was introduced, and group games began, incorporating both standard and adapted activity circuits. These included light running, jumping over obstacles, ball throwing (Fig. 2), object transport tasks, assisted wheelchair running, crossing a sensory mat, hitting a suspended balloon, maneuvering a wheelchair through cones, and grasping and transferring blocks. The evening concluded with a campfire that included storytelling and singing, followed by music and dancing (Fig. 3).



Figure 2. Group games.



Figure 3. Campfire.

The second day included pool competitions in a shallow area, consisting of three events; to promote integration, groups were mixed and formed of 4–6 children. The first event was the *Float Race* where each child had to swim a distance of 5–10 meters either independently or with assistance. The second event, *Floating Packages*, involved each team collecting as many floating toys as possible and transporting them to a basket located at the poolside. The final event was the *Friendship Relay* in which each team member swam a short distance, with or without help, and passed an object to the next child until the race was completed. Emphasis was placed on participation rather than speed.

The third day was marked by participation in a culinary workshop where the children learned how to prepare carbonara pasta independently, with assistance from the staff. In the evening, an animated film was screened outdoors. On the fourth day, the children took part in aquatic physical activities led by the staff at one of the water parks in Bucharest. During the evening, a talent show was organized, where each child performed a dance move, a karaoke piece, or another artistic act.



Figure 4. Camp party.

On the fifth day, the projects that the children had been working on throughout the week with their team members were completed, followed by an awards ceremony and a celebration (Fig. 4) featuring face painting workshops, friendship bracelet making, and crafting of small objects. The final moment was marked by the formation of a large circle, in which all participants held hands as a symbol of unity and gratitude for the shared experience. On the last day, the children, together with staff and volunteers, cleaned the camp, reflecting the holistic development of the individual's personality in accordance with societal expectations of autonomy, efficiency, and harmony with the natural and social environment. The camp concluded with their departure.

Results

Following the final evaluation, scores were recorded for the five component scales of the administered questionnaire—emotional symptoms, conduct problems, hyperactivity, peer relationship problems, and prosocial behavior. Initially, the total score was 21 points, which decreased to 12 points at the end, indicating a significant improvement in psychosocial well-being. At the beginning of the camp, the beneficiary exhibited anxiety in social interactions and emotional expression, difficulties integrating into the group, avoidance of collective games, and poor prosocial behavior characterized by a lack of offering help to others and not initiating interactions. By the end of the camp, the child became calmer, laughed more, sought help and expressed needs, engaged in play, cooperated, and actively participated in group activities, encouraged other children, assisted volunteers, and initiated games (Fig. 5).

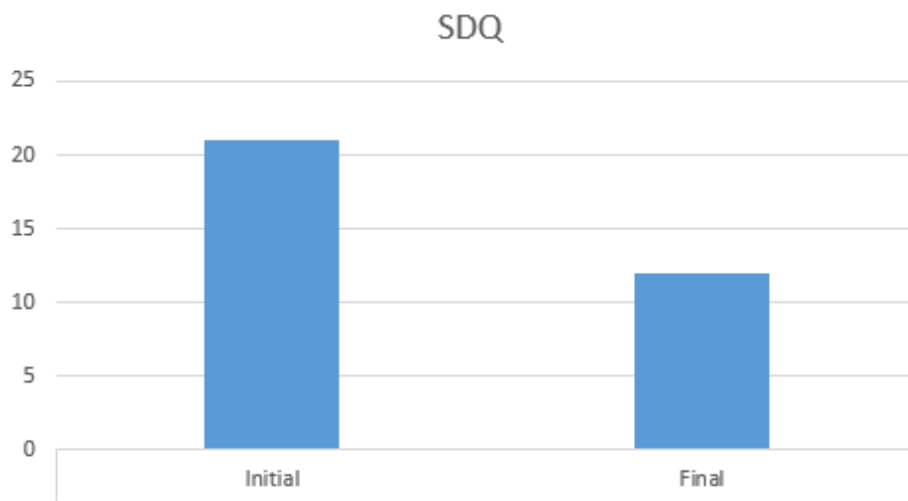


Figure 5. Results obtained on the SDQ Scale.

Regarding the motor component, data were recorded through direct observation both at the initial and final stages for eight main domains (Fig. 6).

Criterion	Initial	Final	Progress
Body scheme	Poor awareness; hesitations in movement	Improved awareness; more confident movements	Noticeably improved
Postural control	Unstable posture; difficulty maintaining trunk stability	Stabilized posture in both static and dynamic positions	Significant improvement
Static and dynamic balance	Unsteady gait; avoids balance challenges	Maintains balance on flat ground; accepts motor challenges	Steady progress
Gross motor coordination	Poor coordination in sequential activities	Smoother coordination in simple and medium tasks	Moderate positive development
Oculo-motor coordination	Difficulties in eye-hand synchronization	Responds effectively to visual and tactile stimuli	Good response to stimuli
General muscle tone	Moderate generalized hypotonia	Increased functional tone, better endurance	Increased functional tone
Motor initiative	Passivity; requires constant guidance	Increased initiative, active involvement	Stimulated initiative
Active group participation	Avoids group motor interactions	Enthusiastically participates in group games and exercises	Good social-motor integration

Figure 6. Initial and Final Results of Direct Observation.

The child demonstrated visible progress in relational and emotional domains, with a significant reduction in difficulty scores. Participation in adapted motor activities, both individual and group-based, contributed to increased self-confidence, affective expression, and improved social integration. Aquatic activities, balance exercises, and sensory games supported postural control, body schema, and active participation. The final evaluation confirms the benefits of a comprehensive approach—motor, emotional, and social—within the context of an inclusive therapeutic camp.

Discussions

Extracurricular motor activity conducted in an informal setting represents a complex form of intervention that transcends the traditional clinical framework. Movement is no longer perceived as an obligation, but as a source of play, relationship, and autonomy.

Within the camp setting, the therapist-child relationship evolved into an authentic partnership, wherein the child was encouraged to express themselves freely, assume roles, and safely explore their functional limits. This non-hierarchical relationship, founded on mutual trust and respect, constituted a fundamental pillar in the success of the intervention.

The value of the camp extends beyond this limited period. The continuity of the results depends on the integration of therapeutic principles into the child's daily routine within the family environment. In this context, the role of the parent becomes essential. When the parent is actively involved—not only as a companion but also as a co-participant in the motor activities—the child benefits from increased security and functional consolidation.

The camp represents a comprehensive support strategy: it fosters the child's motor development, affirms their social identity, provides emotional support, and builds bridges between the family and the therapeutic team. This experience acts as a catalyst for learning and self-discovery,

encouraging the child to continue the activities initiated during the camp and to integrate them into their daily life.

Conclusions

Extracurricular motor activities, when integrated within a recreational and symbolic framework such as an adapted camp, become more than a form of therapy: they transform into a context for affirmation, normalization of childhood, and reconnection with one's own body (Rosenberg et al., 2021).

Children with life-limiting conditions are often excluded from traditional educational and social environments, which exacerbates isolation and negatively impacts their psychosocial development. In this regard, interdisciplinary approaches centered on motor activities significantly contribute to counteracting these effects by providing the child with an active and relational identity (Huang, 2018).

The influence of motor activities on body schema and postural control was evidenced by the motor progress observed throughout the camp. The implemented program had a balanced structure, featuring progressive activities that promoted both bodily expression and social participation within a climate of safety and individual validation.

Regarding the psycho-emotional component, the SDQ score significantly decreased from 21 to 12, reflecting a reduction in anxiety and an increase in pro-social behavior. These findings were corroborated by direct observation, which confirmed the child's progress toward more active engagement, emotional expression, and spontaneous cooperation in group tasks.

The integration of extracurricular motor activities into the therapeutic plan for children in palliative care indicates not only the effectiveness of adapted physiotherapy but also the added value of a symbolic, emotional, and social context in which the child feels seen, accepted, and encouraged to participate (Kenyon et al., 2017).

Authors contribution

All authors have equally contributed to this study.

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