



Typhlo music therapy interventions supporting the motor development of a child with visual disability

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The article presents the possibilities of using music therapy to facilitate the motor development of children with visual impairments. The cognitive functioning of blind children causes certain psychophysiological, emotional and social problems, including a substantial delay in the motor development in comparison to sighted peers. The integration of music and various forms of movement and the sonic and musical interaction between a music therapist and a child reduce a psychomotor delay and improve orientation and locomotion in small and large spaces.

The author, musician, teacher and music therapist, shares his observations and experiences gained during almost thirty years of work with children at the Maria Grzegorzewska Lower Silesian Special Educational Centre No. 13 for the Blind and the Visually Impaired in Wrocław.

KEY WORDS: visually impaired child, music therapy, rehabilitation, motor development, typhlo music therapy

Introduction

People with visual disability constitute a complex and diverse population in terms of eyesight deficiency¹. Nevertheless, two basic groups of children can be distinguished: the blind and visually impaired. The former acquire information, orientate themselves in the physical and social space, move, communicate, learn and rest in a non-visual manner using mainly touch and hearing, followed by the sense of smell and taste. On the other hand, under the same circumstances, visually impaired children primarily use the preserved visual abilities, and to a lesser extent the remaining senses. This way of cognitive functioning causes specific psychophysiological, emotional and social problems². These include the largely delayed motor development compared able-bodied peers³.

Various specialists claim that each child from the first moment of life shows great interest in music, and that musicality is innate⁴. For the child with visual disability, this type of art becomes even more important. Thanks to the sound nature, music is the closest, the most accessible and communicative type of art. The perception of music is direct, i.e. without the involvement of the sense of sight, touch, smell or taste. A blind or partially sighted child does not suffer any difficulties or limitations when listening, reproducing

¹ Z. Palak, *Uczniowie niewidomi słabowidzący w szkołach ogólnodostępnych*, Wydawnictwo UMCS, Lublin 2000, pp. 10–11.

² A.I. Miedziak, T. Perski, P.P. Andrews, L.A. Donoso, *Stargardt's macular dystrophy – a patient's perspective*, "Optometry" 2000, No. 71(3), pp. 165–176; G.M. Preisler, *A descriptive study of blind children in nurseries with sighted children*, „Child: care, health and development” 1993, No. 19(5), pp. 295–315; H. Tröster, M. Brambring, *Early motor development in blind infants*, "Journal of applied developmental psychology" 1993, No. 14(1), pp. 83–106.

³ O. Levtzion-Korach, A. Tennenbaum, R. Schnitzer, A. Ornoy, *Early motor development of blind children*, "Journal of paediatrics and child health" 2000, No. 36(3), pp. 226–229.

⁴ S.N. Malloch, *Mothers and infants and communicative musicality*, "Musicae scientiae" 1993, No. 1_suppl, pp. 29–57.

or creating music. Thus, the child can equally compete with able-bodied peers and sometimes achieve even better results in this field⁵.

The prevailing belief in the modern society is that 1) each blind has above-average musical abilities, absolute pitch, a special sense of rhythm and outstanding musical memory; 2) musical abilities compensate for “disability” and go hand in hand with “frailty”; 3) each child will be an outstanding musician and will make an artistic career in the future⁶. At the very beginning of work, this attitude pigeonholes the child by wrongly ascribing extraordinary musical skills. On the one hand, the child can feel pressure from a specialist, peer group or family, on the one hand, it can feel bitterness when unable to meet musical challenges. If such a false belief maintains, educational, rehabilitation and therapeutic interactions using the musical art will not produce anticipated results. In order to avoid such dangerous traps, we ought to remember about the compensatory role of the child’s auditory analyser, better development in various acoustic situations and the fact that the sight defect may be accompanied by hearing damage, which largely determines not only the musical activity, but also the functioning of the child in other areas of life⁷.

⁵ M. Antović, A. Bennett, M. Turner, *Running in circles or moving along lines: Conceptualization of musical elements in sighted and blind children*, “*Musicae scientiae*” 2013, No. 17(2), pp. 229–245; A.A. Darrow, J. Novak, *The effect of vision and hearing loss on listeners’ perception of referential meaning in music*, “*Journal of Music Therapy*” 2007, No. 44, pp. 57–73; Z. Eitan, E. Ornoy, R.Y. Granot, *Listening in the dark: Congenital and early blindness and cross-domain mappings in music*, “*Psychomusicology*” 2012, No. 22(1), p. 33; P.J. Flowers, C.H. Wang, *Matching verbal description to music excerpt: The use of language by blind and sighted children*, “*Journal of Research in Music Education*” 2002, No. 50(3), pp. 202–214.

⁶ X. Pfammatter, *Music as a Leisure-Time Occupation for the Blind*. “*Review of the European Blind*” 1988, No. 2(60), p. 28.

⁷ A. Okupińska, *Zagadnienia rehabilitacji i edukacji osób głuchoniewidomych*, [in:] *Dajmy szansę niewidomym i słabowidzącym. Poradnik metodyczny dla nauczycieli*, ed. T. Żółkowska, „*Pedagogium*” Wydawnictwo OR TWP in Szczecin, Szczecin 2010, p. 58.

Characteristics of motor development in the child with visual disability

A child with visual disability has the same need for movement as its sighted peers. However, this need is not always satisfactorily and sufficiently fulfilled because of slower mastering of new motor skills and more difficulty in performing self-service and household activities. It is also remarkable that a blind child is prone to being inactive, which contributes to further passivity and reduced mobility⁸. Because of the less developed musculoskeletal apparatus, the child often has spinal deformities described as body posture defects that also affect his or her mobility⁹. This may also include traumatic experiences of independent movement, physical exercises, fitness games, overcoming obstacles and moving around in space¹⁰. As a result of mechanical injuries, the child may develop anxiety, indirectly affecting also the motor sphere. The lack of the appropriate amount and intensity of movement also restricts the time-space-motion imagination leading to a secondary weakening of general mobility, the loss of faith in one's own abilities. The most frequently disturbed components of the child's motor skills include: strength, speed of movements, static coordination, dynamic coordination of the whole body, aesthetics, harmony and fluidity of movements¹¹.

⁸ E. Dziedzic-Szeszuła, *Wprowadzenie*, [in:] *Taniec Towarzyski w rehabilitacji osób niewidomych*, Waclaw Wróblewski, AWF, Poznań 2005, pp. 10-11.

⁹ R. Wypart, *Praca nauczyciela wychowania fizycznego z uczniem z dysfunkcją wzroku*, [in:] *Dajmy szansę niewidomym i słabowidzącym. Poradnik metodyczny dla nauczycieli*, ed. Żółkowska Teresa, „Pedagogium” Wydawnictwo OR TWP in Szczecin, Szczecin 2010, p. 171.

¹⁰ P.S. Haibach, M.O. Wagner, L.J. Lieberman, *Determinants of gross motor skill performance in children with visual impairments*, „Research in developmental disabilities” 2014, No. 35(10), pp. 2577-2584.

¹¹ M. Brambring, *Divergent development of gross motor skills in children who are blind or sighted*, “Journal of Visual Impairment & Blindness” 2006, No. 100(10), pp. 620-634; F.M. Murphy, M. O'Driscoll, *Observations on the Motor Development of Visually Impaired Children Interpretations from Video Recordings*, “Physiotherapy” 1989, No. 75(9), pp. 505-508.

Because of the large or very large delay in the motor development of the visually impaired child, some authors claim that this process is specific as it is characterized by abnormalities in the functioning of the motor apparatus, delays in manipulation and locomotion, greater functional asymmetry (i.e. lateralization) of the hands and the formation of abnormal movement habits called blindisms. Given the above it seems reasonable to undertake rehabilitation and therapeutic interventions aimed at improving the motor development of the child with visual disability.

The specificity of music therapy in children with visual disabilities

The specialist literature contains a relatively small number of works on the use of music therapy in children with visual disabilities, and the available studies combine music education, rehabilitation and music therapy. Generally speaking, authors make attempts to present music therapy as a method integrating musical, educational and therapeutic structures and strategies in order to eliminate abnormal verbal, motor and social behaviours and to stimulate the development of the child, thus increasing its quality of life¹². In the early 1990s this type of approach led to the emergence of a new subdiscipline of music therapy referred to as typhlo music therapy. Although for more than twenty years along with, for instance, occupational therapy, kinesitherapy, hippotherapy, sensory integration therapy, the method has been one of the forms of revalidation applied in facilities for the blind and visually impaired children, it is still treated as a non-standard improvement corrective solution¹³.

¹² R.C. Lam, C. Wang, *Integrating Blind and Sighted through Music*, "Music Educators Journal" 1982, No. 68(8), pp. 44–45; A.L. Steele, C. Crawford, *Music Therapy for the Visually Impaired*, "Education of the Visually Handicapped" 1982, No. 14(2), pp. 56–62; F.M. Wolf, *Music Therapy with the Blind*, "British Journal of Music Therapy" 1978, No. 9(3), p. 29.

¹³ J. Kędzierska, *Planowanie pracy rewalidacyjnej z dziećmi niewidomymi i słabowidzącymi w szkołach ogólnodostępnych*, [in:] *Dajmy szansę niewidomym i słabowidzącym*.

Typhlo music therapy is an interaction that uses music and other non-musical acoustic phenomena to improve, correct and compensate for the impaired functions in people with visual disabilities and to optimally adapt patients to the active participation in various areas of life, especially social. It is carried out in accordance with the paradigm of the humanistic-subjective disability concept maintaining a balance between theoretical knowledge and practical experience. This type of therapy is based on the means of interaction (acoustic material, therapeutic methods and techniques, props, laboratory equipment, classroom scenarios and therapeutic program) adapted to the non-visual way of acquiring experiences and participating in therapeutic sessions. As a result, there is mainly the sound-musical interaction between the therapist and the child (group of participants) based on touch-kinaesthetic, auditory, olfactory, taste and visual sensations (in visually impaired children). The resultant relationship between the therapist and the child has a dynamic, friendly and emotional character¹⁴. This, in turn, allows the child to experience the feeling of security, intimacy, togetherness and interpersonal relationship¹⁵. Thus, it can be concluded that typhlo music therapy fundamentally differs from other contemporary therapeutic models and approaches.

Movement integrated with music in typhlo music therapy interactions

Movement is one of the most important means of child's expression. Some authors claim that it is a condition sine qua non for chil-

Poradnik metodyczny dla nauczycieli, ed. T. Żółkowska, „Pedagogium” Wydawnictwo OR TWP in Szczecin, Szczecin 2010, pp. 104–105.

¹⁴ M. Pavlicevic, *Dynamic interplay in clinical improvisation*, „The Journal of British Music Therapy” 1990, volume 4, No. 2, pp. 5–9.

¹⁵ K. Sobey, *Out of sight – out of mind?, Reflections on a blind young woman's use of music therapy*, „The Journal of British Music Therapy” 1999, volume 7, No. 2, p. 8; H.H. Decker-Voigt, *Musiktherapeutische Hilfen für die Begleitung von Blinden und Schbenhindernten*, „Musiktherapeutische Umschau” 1994, volume 15, No. 2, pp. 140–141.

dren's rehabilitation and independence¹⁶. We can hazard a guess that it is impossible to rehabilitate and treat a disabled child without perfecting its motor activity, because it largely determines autonomy, and thus the sense of subjectivity and self-determination¹⁷. Movement cannot be replaced by anything, neither literature, art, film, or even music. It is a phenomenon more difficult to approach by a child with a damaged visual analyzer than music, but it is necessary for the proper growth¹⁸. Most often, it develops spontaneously, from the need to express emotions, feelings, thoughts, associations resulting from the interaction with musical art. On the one hand, movement is stimulated by music, and on the other hand, it is integrated with music and its selected elements constituting the centre of influence in music therapy of children.

Through the structural elements, such as: rhythm, metre, tempo and dynamics music stimulates imagination of the child, implies the intensity and fluidity of movements and helps to remember the sequence of movement activities¹⁹. In this way, it has an orderly and harmonizing effect on the child's motility, encouraging it to move freely in space and to perform everyday life activities, such as toilet treatments, preparing and eating meals, bedding, washing, ironing, folding clothes, dressing and undressing²⁰.

¹⁶ R. Emery, *Blind role models in rehabilitation*, "Journal of Visual Impairment and Blindness" 1986, No. 80(9), p. 934.

¹⁷ M. Metell, "A great moment. because of the music": *An exploratory study on music therapy and early interaction with children with visual impairment and their sighted caregivers*, "British Journal of Visual Impairment" 2015, No. 33(2), pp. 111-125.

¹⁸ J. Stadnicka, *Rewalidacja dzieci niewidomych przez rytmikę*, „Szkoła Specjalna” 1990, No. 2-3, p. 76.

¹⁹ A. Pielecki, E. Skrzetuska, *Nauczanie niedowidzących w klasach 4-8*, WSiP, Warsaw 1991, p. 130.

²⁰ M.D. Bertolami, L.A. Martino, *Music Therapy in a Private School for Visually Impaired and Multiply Handicapped Children*, "In Voices: A World Forum for Music Therapy" 2002, volume 2, No. 1, <https://voices.no/index.php/voices/article/view/69/59> [access: 24.06.2018]; P. Kern, M. Wolery, *Participation of a preschooler with visual impairments on the playground: Effects of musical adaptations and staff development*, "Journal of Music therapy" 2001, No. 38(2), pp. 149-164.

The production of acoustic sounds by the child using simple motor activities is called music making with gesture sounds or natural music making. The unconventional sources of sounds in a child are, for example: clapping hands, stomping feet, snapping fingers. In this way, the child learns self-orientation and masters self-service and locomotion activities. Moreover, this type of music making is also a form of body massage.

A small blind child is interested in various objects in the immediate surroundings, making them a source of various acoustic phenomena, such as: squealing, ringing, buzzing, rumbling, roaring, creaking, tapping and rattle. In this way, it makes music using everyday objects (mugs, bottles, combs, cellophane, squeaking mascots, blocks, drawers, radiators, etc.). This activates the child and improves its manual and auditory skills.

In the work with a disabled child we most often use simple percussion musical instruments commonly known as school instruments (rattles, drums, harpsichords, tambourines, clappers, harness bells, etc.)²¹. The ways of stimulating the instruments to produce sounds and vibrations include: hitting the instrument with the palm, fingers or fist, shaking the instrument held in one hand, hitting the instrument with the hand, elbow, knee, hitting one part of the instrument against the other, rubbing the hand over the instrument surface, snapping the fingers against an instrument. In this was the child not only develops musicality, but also improves small motor skills, mainly manual dexterity (e.g. touching, gripping, moving, reaching out, squeezing, reaching out hands), positively influencing speed, dynamics, coordination and accuracy of movements.

During music therapy activities children can move in small and large spaces: walking, marching, running, bouncing, sliding, swaying while shifting the weight of the body from foot to foot. During these activities children adapt their movements to the pace, dynamics, character, mood and duration of the musical piece. In

²¹ W. Olszewska, *Ewolucja w muzykoterapii ze szczególnym uwzględnieniem metody Karla Orffa*, „Postępy Rehabilitacji” 1992, No. 3, p. 63.

this way, they develop hearing and movement coordination, correct body posture and spatial orientation. Thanks to the integration with sounds, exercises practicing natural forms of locomotion have a relaxing effect on the child, reduce fear of space, obstacles, injuries and physical effort, thereby strengthening the sense of security²².

Musical-movement games inspire the child to perform various activities accordingly to changes in music i.e. tempo, dynamics, metre and articulation. These games generally use simple ways of moving in space and imitation of everyday activities. The activities improve fluidity, precision and strength of movements. They can also be used to eliminate motor anxiety and suppress movement obsessions. Thanks to the atmosphere of cooperation and competition even passive children are activated to play.

The aim of musical and movement improvisation is to improve the child's imagination (especially time-motion-space), spontaneity of movements, and the ability to express emotional states. As part of this technique, they can spontaneously make single movements and their combination, create the ways of moving, performing everyday activities and dance to the music. Through improvised movements the child explores own body, learns to accept and consciously uses it.

Music, and especially its constituents, such as timbre and dynamics can be used in blind children in teaching and correcting the expression of emotions through countenance²³. For this purpose, we apply exercises which transfer and process the means of musical expression into facial expression. Mood and character of pieces of music imply movements of the facial muscles to be adopted by the child.

Mainly ballroom dancing is used in music therapy in blind and visually impaired children²⁴. The elements (steps, turns, bows, hand

²² W. Sapp, *Somebody's jumping on the floor: incorporating music into orientation and mobility for preschoolers with visual impairments*, „Journal of Visual Impairment & Blindness” 2011, No. 105(10), p. 715.

²³ H. Zamęcka, *Metody działania muzykoterapeuty w pracy z dziećmi z uszkodzonym wzrokiem*, „Szkoła Specjalna” 1985, No. 3, p.196

²⁴ A valuable help in teaching children the steps of ballroom dance is the method of Waclaw Wróblewski using spatial visual tables based on a six-point Braille

movements, head positions, ways to hold a partner, etc.), which are complicated in terms of performance and expenditure of physical effort, are modified and simplified according to the specificity of child's functioning. Children can also, without any rules, improvise the elements of dance by gesture, movement or musical instruments to the original or arranged dance music. Dance (or its elements) improves coordination of movements with the sound and music material, their elegance, precision, creates a correct posture, perfects self-orientation, and reduces automatic movements called blindisms²⁵.

Summary

A child with visual disability can fully experience music and benefit from its various pro-health advantages. Thanks to the therapeutic potential this kind of art inspires the child to spontaneous tasks, musical and play activities. It triggers, organizes and modifies movements and thus stimulates time-motion-space imagination. As a result, the child's behaviour becomes more free, and thus more predictable, easier to be shaped and corrected. In this way, psychomotor inhibition is reduced and orientation and locomotion are improved in small and large spaces in the blind and visually impaired child. In addition, movements are often accompanied by the joy of meeting the natural need of movement, relieving psychophysical and emotional tension and sublimation of aggression.

Typhlo music therapy is an effective and safe space for children with visual disabilities. This space creates an area to reduce a delay in motor skills development and improve its individual components. We can hazard a guess that movement alongside music is the

script at 60 times magnification. W. Wróblewski, *Taniec Towarzyski w rehabilitacji osób niewidomych*, AWF, Poznań 2005.

²⁵ J. Kuczyńska-Kwapisz, *Spostrzeżenia dotyczące prowadzenia zajęć z młodzieżą niewidomą w kole tanecznym*, „Szkoła Specjalna” 1979, No. 4, p. 288; A. Mazurkiewicz, *Zainteresowania muzyczno-taneczne niewidomych*, „Kultura Fizyczna” 1968, Yearbook XXI, No. 3, p. 122.

most important means of influence to be used in this type of interaction. Multiple positive experiences acquired by the child and linked to the physical activity are transposed from the area of therapeutic interactions into the non-visual functioning, thus contributing to the improvement of the quality of life. Therefore, it can be concluded that typhlo music therapy interventions may be used to support the motor development of a child with visual disability with the simultaneous involvement of the preserved senses and creative potentials.

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