

DEVELOPING HANDICAPPED CHILDREN WITH GAME THERAPY

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Game therapy is an early intervention program for infants and small children with central nerve system damages and genetic disorders and is applied by the therapists cooperating closely with the parents. This multidisciplinary method builds on medical, pedagogical and psychological knowledgebase.

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We apply game therapy primarily for children with disabilities due to central nervous system damage or genetic disorder. When examining the types or symptoms of either, our diagnostically experience shows with certainty that almost every function and sense organ is affected. We define the diagnose depending on which function is affected the most; therefore we distinguish *movement, visual, auditory, intellectual or behavioural disorders*. Complex disabilities involve severe disorders of several functions simultaneously. According to our therapy experience complex disabilities also be resulted if there has been no therapy applied from early infancy. (Because in the case of movement disorder movement is inhibited, which prevents the child from getting information through exploration and therefore the decreased function of sensory differentiation has a negative effect on learning skills.)

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Numerous methods have been elaborated on for healing injuries and rehabilitation. We attempt to provide an overview of them in the following. The list is based on didactic considerations without qualifying them.

A comparative study of these methods could not give adequate results because of the difference of their objectives. On the other hand, the efficiency of a single method primarily depends on *which type of disorder* it aims to cure. *The responsibility of the experts working with these specific methods lies in selecting those infants and children to work with, with whom their method is efficient. As a matter of fact this requires high standards of professional ethics and a respect towards other methods.* I would like to emphasize that each method has its merits, but none of them is capable of offering a solution for every case. (From a medical point of view a handicap or disorder is a kind of illness that cannot be cured in general, but rehabilitation is possible, which, in this sense, could help the patient establish an independent way of life and this professional result is respectable.)

Functional therapies

These are mainly medical therapeutically procedures that can be applied at any period of our life in case of temporary or permanent injury. Essentially they apply rehabilitation methods accepted in European medicine in case a specific function is eliminated. Therefore when the motor centre or motor organs are injured an adequate medical therapy comprises remedial gymnastics, medical massage, balneotherapy or vestibular stimulation when the vestibular system is affected, we can also mention operations, medical aids among many others. Functional therapies also comprise the rehabilitation of various sensory organs (vision, hearing, tactile perception and tasting). Glasses, hearing aids and pertaining stimulus therapies and surgical intervention also help the patient's rehabilitation.

Injuries of the infants' central nervous system are corrected by neuro-rehabilitation method elaborated on by Professor Ferenc Katona (1986). In case of rehabilitating injured or handicapped children a combination of the above methods is utilised.

Pedagogical therapies

In Hungary there are two major schools of pedagogical therapies: medical pedagogy and conductive pedagogy. Pedagogical therapies provide developmental opportunities for permanently handicapped children or adults. These therapeutically procedures are based on functional therapy categories, as medical pedagogy involves the specific areas of sensory organs and conductive pedagogy focuses mainly on motor functions. Both types use the devices and methods of functional therapy, but it also differs significantly from them. In functional therapy there is no need for active cooperation – the passive tolerance of the healing methods is sufficient-, whereas the essence of pedagogical methods is active cooperation, furthermore cooperation is assessed with pedagogical tools. The other major difference is that in pedagogy the types of injuries are treated separately and rehabilitation work follows a predefined curriculum, pedagogical and didactic principles. The children or adults are linked to the predetermined tasks and not vice versa. In functional therapy it is always the actual status of the patient that defines the procedures and the change in therapy takes place in small steps.

It is also essential in every pedagogical therapy to teach, educate, socialise and assess the results in the form of a certificate.

Psychotherapies

Psychotherapies are grouped into two main categories. *Family therapy* could be recommended for parents who raise handicapped children. *Handicapped children* are advised to participate in psychotherapy when they start school or in their adolescence. People living with injury is a stigmatised person and this stigma should be eased up with adequate behaviour and social skills so as the Ego should not suffer from the burden of either pity or discrimination. (We should note here that there has been no culture for this in Hungary yet. We should also mention Alaine Polcz's (1974) excellent therapy as a pioneer in dealing children suffering from severe and often fatal illness).

Drama game – game therapy

Since game itself has numerous definitions, we can read several definitions about drama game as well. I would like to quote a definition from Katalin Gabnai, one of the main protagonist drama teachers in Hungary and a school founder: *"The main purpose of our drama games is building personality; their tasks are establishing connections, maintaining connections and making communication easier. Therefore dramatised creative games are socialising activities in essence."*

Drama game as a pedagogical method has branched into several directions:

- puppet-show, where the puppet is the main device of dramatised games,
- in music-and-dance based drama pedagogy the main vehicle of drama game is pantomime improvised to music,
- educational drama involves adapting the curricular topics with the drama pedagogical means and methods,
- and at last, but not least there is dramatic acting, a method that holds psychological and didactic purposes of most importance.

The primary aim of these methods is evolving a healthy child's creativity and elevating it gradually to higher levels. Experience has proven it that a child with partial functional disorder has healed or his or her status got better after he or she took part in drama game sessions.

Healing games

Healing games are a subgroup of drama games. It is a therapy specifically for damaged, handicapped infants and children. In healing games therapy all the above mentioned four therapies are present to a certain extent.

1. With the tools of *functional therapy* and application their various methods we evolve the functions, correct injuries and regulate muscle tone within the framework of dramatic game situations. We have elaborated on different game programs for making the various sensory organs operate properly. *Hearing and listening* development is aided by sound stimulus programs for different purposes recorded on CDs, instrumental and sound imitating rhythm games together with movement sequences with paired, alternate and crossed rhythm. We elaborated on a therapy for developing *seeing and sight attention* with the usage of colourful lights (colourful bulbs, UV lamp, candles) and also with slide shows, slides and shadow games. For infants and small children we apply black and white or red and white geometrical form set to help them fix and follow the sight. These stimulus therapies are incorporated into our drama game programs and are empowered with symbolic meaning when applied. The *movement sequences* are built upon each other with always regarding the actual movement status of the child, which is the basis of their customised location and position changing movements. One of the most important aspects of game therapy is that we do not skip movement stages during development (e.g. we do not make a child stand up or walk until he or she cannot crawl or turn). Apart from movement sequences helping correction or development that we elaborated on or adapted on the basis of physical therapy we also applied various tools that develop balance, crossed movements, motion made harder

with devices or regulates muscle tone. We also apply electrotherapy with very good results.

2. *Pedagogical principles* are in the forefront during the game when

- *we teach*: that is we name, make the children recognize things, identify objects and notions, adapt different topics and develop cultural level, experience, skills and intellect.

- *we educate*: we form rule awareness, socialize and request cooperation.

- *we assess*: evaluating the quality of participation into the game ("You are clever! You won! You made it!" etc.).

3. A very important part of game therapy is *harmonising mental processes*. The playing child's or adult's mental mood is best described with words like easy-going and bliss, conditions that always involve an urge to act. That is why we can see that a playing child is "never tired", he or she is almost incapable of stopping his or her activity. The more we iterate game activities, the greater "inner reward" experience the player gets and this reward increases his or her willingness to act and makes it possible to perfect the exercise.

Game is a tool for personality development since the child gets to know this way his and the others' abilities. In a game situation he or she also gets feedback from the others how his or her companions evaluate him or her. This can strengthen or weaken a certain personality trait that has an influence on his or her social relations.

The course of game therapy

1) *Increasing learning skills at infants and small children with game therapy*. Increasing learning skills does not identical with intelligence. An injured, handicapped infant or small child usually has a narrowed scope of interest. It is only by differentiated stimulation of sensory organs can we ensure his or her activation and vigilance. By making the sensory organs operable in a differentiated way we can create the skill of perception as the basis for associative thinking. Balanced emotional safety can be ensured to a child where the therapy is based on game situations that provide a real experience. The experience of a pleasant event builds up long-lasting memories. This line of thought is supported by the fact that healthy, but hospitalised children -who, sadly enough, cannot have enough differentiated stimuli for the sensory organs and are raised up in an environment lacking warmth, acceptance and emotional stability – can suffer from learning problems even when they have a good level of intelligence.

The sessions described in the following are built upon one another. Game therapy is thriving to establish warm and accepting situations to provide pleasant experience for the parent and child.

- *setting up the dramatic theme*: associated to a tale or seasonal festival or season:
 - *with light therapy*: we associate the content of the theme with the lights and to the rhythmical light flashes we associate nursery rhymes and songs. We use other tools for light therapy as well, such as shadow play, colourful lamps, UV lamps, light emitting objects, transparent shapes. Light therapy has proven to be extremely successful in healing infants and small children with sight disabilities.

- *sound therapy*: we continue to adapt the story. We have several recorded programs with music, various sounds, voice imitations and noise effects. A crucial part of sound therapy is playing various musical instruments according to age. Developing listening skills takes place by orienting listening attention towards voices and noises coming from different directions of the space.

- *Extending the knowledge pertaining to the theme*: The story is adapted in the following part with communication games using nursery rhymes and songs.
 - *communication*: bodily games with the parent, such as caressing, clapping hands, picking, etc. Voice imitating games of parent and child together with developing rhythm with bodily contact, kinaesthesia also for nursery rhymes and songs.
- *Adapting knowledge, creating rule awareness*: Imitation and limitability is one of the most decisive stations of the learning process. In order to attain this it is a prerequisite to accept the rules and act accordingly.
 - *simple imitating games* are taught that are built on the motions of the child's own body or it can be done by moving puppets and game objects.
- *gaining experience* (basic manipulation):
 - *using tactile stimuli*: We provide game objects and manipulation tools to the story adaptation that enable and activate the basic, elemental movement series of eye-hand coordination.

2) *Sensomotor development with game therapy for infants and small children*. Our primary aspect in infancy and early childhood movement development is greatly decrease neurological symptoms or, if possible, cease them. To achieve this we elaborated on such stimulus situations in which the central nervous system is activated, as a result, movement sequences appear on the peripheries. Practice makes the movement sequences more and more articulate and by doing so it facilitates to form accurate human specific location and position changing movements. Evidently we use events close to the children's world when the children move or we move them. We organise all movement elements to anthropomorphic game situations to highlight that movement is not all about suffering, but active action with a cause. We should keep in mind that in many cases –until the motion becomes inherently his or her own– the child may feel fear or even aches, therefore the game situation is essential to get him or her through unpleasant situations. The structure of the sensomotory programme is the following:

- *drafting the dramatic theme*:
 - with the help of *special costumes* designed by ourselves we endow the children in a game situation, who this way acquires a role and performs the movements as a player in the role. By doing so we project the movement learning process to the role and we do not confront the child with his or her own disabilities. In the case of infants and small children we give this role to the parent, so it is easier to motivate his or her child and the parent is not confronted with his or her child's occurring inability. When the function is already established he or she praises the child and not the role. To achieve this we need the followings:
 - *background music in relation with the topic*

- *a nursery rhyme or song adequate to the movement* the rhythm of which ensures continuous moving.
- *setting up movement sequences built up in an algorithmically way* - the main constituents are the following:
 - *with the usage of tools or special movements* we make the central nervous system produce movement sequences (elementary movement patterns) that phase out neurological symptoms partially or totally.
 - *developing balance* with various tools and movements.
 - *practicing movements that enables free joint movement* with tools, passive moving and activated movement sequences
 - *strengthening muscles* with tools and activated movement sequences
 - *forming human specific location and position changing movements* on different tools together with activated movement sequences
 - *electrotherapy and/or baby massage if necessary*
- *interdependency of algorithmically structured programmes*
 - *the constant correction of sensomotory programmes performed individually and mutually according to the development objective and the pace of development.*

3) *Enhancing learning skills with game therapy for children of age between 3 and 6 years.* Regarding children of kindergarten age (3-6 years old), the development method is largely defined by the type of injury. Tunyogi Early Intervention Centre is primarily attended by children with multiple damages (Tunyogi, 1989, 1990, 1995). Therefore we develop all their sensory organs equally as in the case of infant learning skills development:

- *dramatic environment, setting up the theme:*
 - *with light therapy:* instead of using lamps in light therapy, we move on to apply more complex shadow games, projected film-strips about a tale or puppet-show. The film-strip tale exclusively comprise of pictures narrated by the therapeutics.
 - *sound therapy:* we associate music, imitative words and noises to the theme.
- *We reinforce knowledge acquired from the drama theme* with the help of the followings:
 - *we adapt the story with instrumental music and various rhythms*
 - *using verbal communication: songs, nursery rhymes, syllables, words* the children retell the story with some parental help.
 - *role play:* e.g. the tale is retold with puppets
 - *imitating body games:* imitating the actions and movements occurring in the tale.
- *Mapping factual knowledge:* Tale adaptation offers the opportunity of processing inherent knowledge in a various ways. Knowledge is adapted in the following ways:
 - *manipulation:* depicting, constructing, practical game activities.
 - *rule games:* board games, playing cards, memory card games.
- *Embedding knowledge – according to the theme:* In the last stage of processing we urge the child to develop conceptual thinking. We apply the following tools to do this:

- *workbook*: there are several nice colourful workbooks for kindergarten children adapting different topics. Our choice depends on the level of injury the children have.
- *worksheet*: the developer therapeutic prepares the worksheet according to the children's actual status.

4) *Sensomotory development for kindergarten children with game therapy*. Our primary goal is establishing independent location and position changing movements, fending off contractions and alleviate neurological symptoms. In the case of children with good movement skills our objective is to teach moving on rough surface among obstacles. The structure of the sensomotory programme is identical with that of infants' with the only exception that roles are cast to the others by the "main character" and by doing so they perform movement based role play. The steps are the following:

- drafting the drama topic:
 - "selecting the main character" with the help of a special costume
 - background music that matches the topic
 - a nursery rhyme or song adequate to performing the movement
- composition of algorithmically structured movement series:
 - with the usage of tools or special movements we phase out neurological symptoms partially or totally.
 - developing balance with various tools and movements.
 - practicing movements that enables free joint movement
 - strengthening muscles with movement sequences used in remedial gymnastics
 - forming human specific location and position changing movements
 - electrotherapy if necessary
- interdependency of algorithmically structured programmes
 - the constant correction of sensomotory programmes performed individually and mutually according to the development objective and the pace of development.

Developmental game therapy sessions take place for 2 hours every weekday. The modular interconnectivity of the game therapy rehabilitation programmes are defined exclusively by the status of the children. Our experiences show that routine formation takes place for 6-8 weeks for each programme, which is followed by the new programme that ensures the children's further development.

Game therapy – a summary

All sensory organs equally involved in game activity and the variability of the different game types enables differentiated innervations in each sensory organ. This will serve as a basis for *perception skills* which are indispensable in the learning process. Perception skill ensures recognizing the details in the whole and vica versa: the whole can be built from its parts by using it. Symbol formation, association and conceptual thinking are formed as a result of the development of child games. The child's verbal skills are also mainly influenced by the development level of child game. Therefore in many cases *logopaedia* sessions can start only when we have already developed the child's various game skills.

I mentioned at the beginning of my article that a damaged nervous system causes weaknesses and deformations in almost every sensory organ. One of the symptoms of injured children highly visible also to laymen is that their game activity, that is their exploratory curiosity is underdeveloped compared to their peers. Routine game starting from the beginning of life does not even start in more serious cases. The practical and theoretical foundation of this phenomenon urged me to establish game therapy. In game therapy each sensory organ takes place equally and this way the functions are built on each other and they enable harmonic development by mutually strengthening one another.

The game therapeutics as a specialist

The therapy can be applied only by someone who knows how the sensory organs work and also the corrective procedures of different injuries. He or she should be knowledgeable of the development of healthy movements and their development based on one another. In case of movement injuries he or she should know those remedial procedures that normalise muscle tone and the movement sequences that establish the function. He or she should be well versed in psychology, developmental psychology and pedagogical methods. He or she should know the different game types, game theories and game instruments usable for establishing game activity. He or she also needs to have basic medical and specialised medical knowledge. Since the parent and child live in a soul and body symbiosis we have to help forming a harmonic parent-child relationship with empathy and family therapy. By performing game therapy together with the parents, we strengthen the positive personality traits and enhance problem solving skills.

The most important quality of a game therapeutics is healing both the damaged soul and body equally in the game situation and everyday life.

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