

## STUDY ON THE RECOVERY OF AUTISTIC CHILD BY KINETIC MEANS

**BENEDEK FLORIAN<sup>1</sup>**

<sup>1</sup>University "Stefan cel Mare" of Suceava

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**Abstract:** The present work aims to demonstrate the importance of applying therapy through play in order to develop sensory development against the diagnosis of autism. It is intended to demonstrate that kinetic exercises can be successfully applied to children diagnosed with autism. Organizing play activities with a driver is not as easy as in the case of a healthy child. Therefore, we must give ourselves a long and hard work. However, over time, we will notice the first changes, the improvement of the condition of the child, which is the greatest reward for a loving parent.

This evaluation was carried out over three months. In the first weeks, the little boy was shameful and fearful, he could not wait more than five minutes, he always threw objects on the floor, but after a while he got used to my presence around him. During the evaluations I noticed that the ball is one of the toys that they like. For the most part he is an open mind, but he also has moments when he is unwell, stubborn, not even listening to his mother whom he loves most.

### **Introduction:**

Autism is one of the most serious developmental disorders, characterized by serious social skills and communication, stereotypical interests and behavioral patterns. April 2nd is the International Day of information on autism. Autism or, rather, autism spectrum disorder (ASD)- This is a complex developmental disorder characterized by deviations in interactions and social communications, that affect communication and relationships with other people, as well as the perception of the world around it. With early diagnosis of autism in children, treatment can have noticeable results, and the main objective of therapy is the formation and socialization of the child. [1]

Autism has a long past, but a brief history. Autism history begins with legends and stories about children left by elves, instead of the kidnapped. The concept of "autism" (from "Autos" which means

"himself") It was first used by swiss psychiatrist Eugen Bleuler in 1911. [5]

First of all, autism is not a disease, but a condition with which a person is born. It can't be cured, but over time, you can help a person in social life. Autism manifests itself through delayed development and by refusing to contact the outside world. She can't be diagnosed immediately at birth. It manifests itself later on physiological level. [4]

Modern studies suggest that genetic factors play a role in the development of autism: The risk of developing autism is 60% for a child whose monozygous twins ,he has a diagnosis of ASD, while in the case of heterozygous twins this risk is close to 0%, and the risk of development have less severe symptoms. [2,3]

There is also a good research of non-genetic influence of parents and the environment during the early development of the probability of a diagnosis of ASD. One of the proposed factors is a deficiency of vitamin D in the mother during pregnancy, which negatively affects brain formation in the fetus. Lack of maternal thyroid hormones can also have an effect. The age of parents can be another factor that increases the risk of developing autism.[6]

#### **Material-method:**

Every child is special. For this reason, games for autistic children should be tailored individually, transforming into a single curriculum.[3]

**Study hypothesis** is, firstly, that one of the main mechanisms that normalize and support the symptoms of autism is the negative, the most important feature that is the absence of the need to isolate itself and to assert itself in the system of human relations. Secondly, based on this, I believe that the use of working methods aimed at forming and creating a positive experience of communication, relationships and activities, we can reduce the symptoms of early autism (negativity, aggressiveness) and contribute to the social adaptation of children with autism.

**Purpose of research:** To determine the characteristics of children's representation with ASD, and integration into an educational environment and a society suitable for him.

**The objectives of the study** are:

- ✓ Conducting a comprehensive diagnostic study to determine the level of development of the child and the optimum educational route;
- ✓ Building communication Skills;
- ✓ Development and correction of the emotional sphere;

- ✓ Formation of acceptable social behaviour;
- ✓ Training and development of the child's superior mental functions;
- ✓ Development of cognitive activity and talk;

Develop a method of qualitative semantic analysis of children's vocabulary, allowing characterisation of the development of activity and their selectivity in environmental interaction;

To resolve the established tasks and to test the hypothesis of the study, the following **methods**:

ABA Therapy (Applied behavioral analysis) is an intensive training program based on behavioral technologies and exposure methods. For Autists, ABA is the most effective method of learning. Based on this definition, as a result of ABA therapy, the child can learn certain abilities. And the emphasis is on social behavior.

#### **Presentation of the case**

Name and surname: M.M.N, Date of birth: 06.09.2011, Family component: Mother, father, three minors, attended educational services: Student in preparatory class, Diagnosis: Environmental mental retardation, polymorphic distensions, Type of primary need: Occupational therapy, logotherapy, physical therapy.

#### **Place of case**

The research took place in a relatively new center opened in Fălticeni, namely the Fara Foundation, St. Teresa Center. The duration of treatment was on average of 3 months, with a frequency of 2 sessions per week. The purpose of the study is to identify the level of capacity of an autistic child to learn.

#### **The working stages are as follows:**

1. The first step is to assess the skills of the child involved in research, with the aim of gathering important information on the diagnostic.
2. The second stage, specific intervention programmes based on the elements of the ABA method have been developed and implemented.
3. The third stage of the research comprises the assessment of the child's progress in order to monitor and establish the effectiveness of the intervention programmes and the methods used.

#### **RECOVERY PLAN**

##### **Exercises for the development of fine and coarse movements.**

For the development of fine motor, we can use different materials, such as: plasticine, paper clips, beads, laces, pliers, needle, thread, crayons,

watercolours etc. Leaving these small-sized objects, we give children different tasks (on time or without), such as:

1. Arranging the cubes by different sizes. (Dosage: 2x5 reps, pause 1 min).
2. Building Lego parts. (Dosage: 3x5 reps, pause 1 min)
3. Hand-eye coordination applications, such as finger-tracking exercises, and then with a pencil of a graphic scheme containing vertical and horizontal lines. (Dosage: 2 x 2 reps, pause 2 min.)
4. Pairing colors with whose object it belongs to. (Dosage: 5x2 reps, break 1 min)
5. A thread or a trick is added to certain beads, of a particular color, size or order. (Dosage: 2 x 3 reps, 3 min break)
6. Exercises by clamping gestures, putting, pressing, taking, holding. (Dosage: 4x2 Rep)
7. Collecting/joining some puzzle pieces. Collecting puzzles is one of the favorite activities of many autistic children. (Dosage: 2 x 5 reps)
8. Identification and localization exercises. (Dosage: 2 x 2 reps, 1 min break)
9. Use fingers to move beads from one container to another. (Dosage: 2x2 Rep)
10. Exercises to associate shapes with objects in the environment. (Dosage: 3 x 2 reps, 2 min break)
11. Game concentration and attention in which the patient worked a 1 min.

**For the reeducation of static and dynamic balance and coordination, we worked out the following exercises:**

1. From Orthostatism, walking on various objects (grains, stones, gymnastics bench) for stimulation the enzyme. (Dosage: 2x3 reps)
  2. From orthostatism, climbed up and down the stairs. (Dosage: 2x5 reps, 2 min break)
  3. From Orthostatism, face to landing, balances on the balance plate. (Dosage: 2x 5 reps, 2 min break)
  4. From Orthostatism, at the fixed scale, the upper limbs grab a chassis at the level of the stone, lifting a lower limb on the chassis.
  5. From Orthostatism, on a fixed scale, squats. (Dosage: 2x3 reps, 2 minute break)
  6. Jump on the trampoline.
- Trampoline is the "king" of exercise therapy to improve high motor. (Dosage: 2x 6 reps, 2 minute break)

7. Ball games are at first the most simple and then more complex (driving the ball, hitting with the palm or throwing up, catching or hitting the ball). Such games contribute to the development of visual skills for tracking objects and motor skills.

8. Exercises identifying geometric shapes and association. (Dosage: 2x 3 reps,)

9. Exercise in different appliances (elastic band, Stepper). (Dosage: 3x 5 reps)

For correcting communication skills, it is better to use this age exercises in a game form. In such games, thinking and speaking are improved. This collection presents the game exercises aimed at:

- ✓ Development of the emotional sphere;
- ✓ Developing speech skills;
- ✓ Developing group work skills;

### **Results and discussions:**

To the initial assessment, M.M.N, shall be presented:

✚ Visual contact is reduced and there is no intention to look for the eyes of others. Don't interact with other kids in the game.

✚ It cannot complete and copy pregraphic paths such as lines, circles, triangles. He does not know the colors, geometric shapes, numbers, and has no formats of large-small concepts, which normally should have been appropriated at the chronological age that M.M. N has at the time of evaluation.

✚ Don't answer your own name by any kind of gesture.

✚ It has no sense of danger when it is near forbidden or dangerous objects.

✚ Makes associations of identical objects, but fails to associate objects to the corresponding images.

✚ Fine motor is better developed than coarse.

✚ Overall development.

✚ Motricitatea fină nedezvoltată.

✚ Undefined spatial orientation.

In the final assessment, M.M. N shall be presented as follows:

✚ Visual contact has improved considerably M.M.N. looking for the look of the one they communicate with and seek the presence of each other. He doesn't like being left alone, looking to interact with the kids.

✚ It mimics actions, moves. She's a cheerful kid who expresses joy through gestures, facial expressiveness and vocalization when she sees

people she's attached to. He likes to play more alone than with other people and is able to quietly play a long time near the adult. Accept the absence of parents, continuing their game.

✚ Vocalize, repeat sounds and words spoken by other people. I recall that M.M.N. was a nonverbal child, which imitates no sound produced by the adult.

✚ Eat the whole meal alone and use the cutlery properly to eat

✚ Associates objects with their images and can indicate both environment and image objects when they are named. Make the combination of colors, shapes with their images. Understands the belonging of objects to the categories they belong to and arranges objects by category accordingly.

✚ Can solve a feather puzzle at 16 pieces with minimal help or without. It mimically builds a bridge of three cubes, but also other cubes.

✚ Indicates large and small objects on demand, calls and identifies objects "same" and "different".

✚ Knows all parts of the body that they indicate on demand on their own body, another person.

✚ Motor development is appropriate to the actual age it has M.M.N. He can come down the stairs with help and alone, he runs changing direction, keeps his balance on a gym bench, jumps on both legs several times. He learned to play with the ball he throws at distances of 1 meter and catches the ball.

After closing the case study and applying and interpreting the latest evaluation tests, progress can be highlighted through the following tables.

Tab.1 Evaluation of fine and coarse motility.

	Initial assessment	Final evaluation
Unites the Pieces	1	3
Shaping over a model	1	2
Circular Movements vs lines	0	2
Sort objects	1	2
Object matches.	1	3
Colors	2	3
Image to Object	1	3

Obs. Values from 1-3 respond to each of the following categories:

0- Not initiates at all; 1- initiates; 2- Performs partial action; 3- Performs the full action;

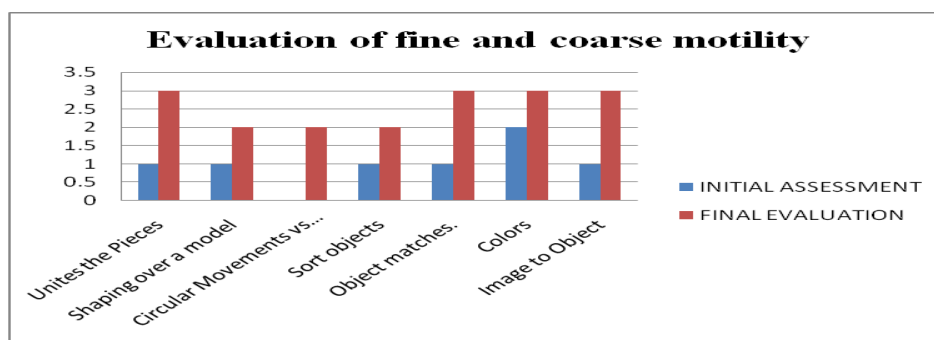


Diagram 1 Evaluation of fine and coarse motility.

The results show a significant improvement in the smooth driving, as the patient has made a huge effort.

Tab 2 Re-education of balance and coordination

	Initial assessment	Final evaluation
Balances on the balance plate	0.5	2
Walk on a straight line	1	3
Walking on the gymnastics bench	1	3
Walked over obstacles	0,5	2
Route	0,5	2
Climbed-down stairs	0,5	2
Jumping on the trampoline	1	3
Stand in one leg	0,5	2
NUDGE Test	1	2

Obs. Values from 0-3 respond to each of the following categories: 0-not initiates at all; 1-tilt to one side; 2-Perform the movement with help; 3-Perform the complete movement;

Tab.3 Evaluation/Progress Sheet Balance assessment test

	Initial assessment	Final evaluation
Unipodal test	0	2
Nudge Test	1	3
Proactive Balance	1	3

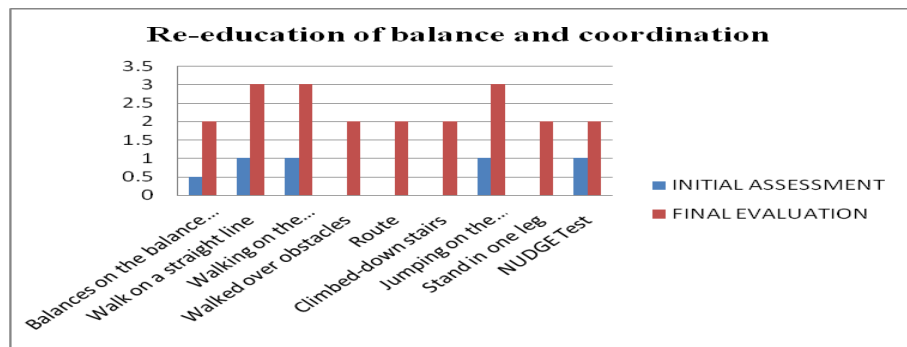


Diagram 2 Re-education of balance and coordination

Obs. The values of 0-3 respond to each of the following categories:  
 0- does not initiate at all; 1 maintain the position with the help of KT; 2 Maintain position with surveillance, 10sec; 3 maintain position without falling;

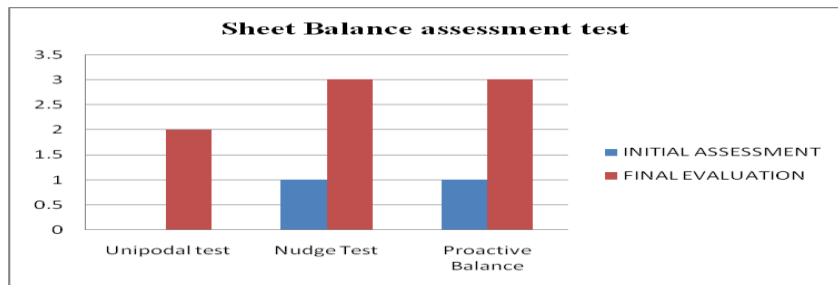


Diagram.3 Evaluation/Progress Sheet Balance assessment test

Analysis of ABA test results-sensory sensitivity, cognitive awareness, before and after treatment.

The results indicate a slight improvement, especially visible in the following areas:

- The child reacts to his name;
- The child has an appropriate facial expression, appropriate to the;
- The child is curious by the world, interested in his environment;
- The child directs the sight to the place where others are doing;

We also investigated the association between the exposure of children to the formation of initial assessments and the average increase in motor function within 3 months of the study, taking into account the effects of age, diagnosis, initial evaluation and duration of participation in Program. We also evaluated the association between changes in the child



according to fine and coarse driving at the beginning of the sitting and at the end, and the changes perceived by the parents both in terms of the daily life of the child and parents.

### **Conclusions:**

Based on the whole material, we can conclude that autism is a complex of disorders. Autism spectrum disorders currently belong to the most commonly diagnosed developmental disorders in children – the diagnostic number increases every year, and each patient has a different initial state of deficits and individual development conditions In development.

Following the intervention programme, improvements were observed in his behaviour M.M.N. they concerned both the child's skills in the areas of development (language and communication, socialization, motor-related), and behaviours Stereotypical. Progress has also been made in M.M.N. 's participation in group or team ludic activities. The analysis was completed at the end of May months, using the pattern of linear mixed effects with random effects on the subject, we identified growth patterns and preachers.

This study investigated its effects on the development of fine motor, musculoskeletal system level and reeducation of balance and coordination in the child with spectrum disorders of autism. The results showed that the role of physiotherapist in recovering autistic child is of great importance, gymnastics activities combined with music in the development of balance, coordination and flexibility were more effective. In comparison, it was noted that gymnastics training combined with music was more effective in developing static and dynamic values, coordination and flexibility.

Following the application of tailored and individualised intervention plans based on specific intervention modalities used in the therapy of children with autism, progress has been made in both mental and behavioral development areas. The results obtained in these assessments underpin the proposed educational objectives and the choice of specific intervention techniques in the developed therapeutic programmes.

As a result, the achievement of correct assessments and through a physical therapist allows the development of individualised intervention programs that fold on the atypical development of autistic children. The above data shows that ABA therapy has a good effect on the patient's

examination with autism. Therapy has no negative effects. Deeply stimulates the central nervous system by inhibiting the activity of the sympathetic system and deeply activates the extrapyramidal and pyramidal pathways of the CNS.

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### **STUDIUL PRIVIND RECUPERAREA COPILULUI AUTIST PRIN MIJLOACE KINETICE**

#### **Cuvinte cheie: Autism, copil, studiu**

**Rezumat:** Lucrarea de față, dorește să demonstreze importanța aplicării terapiei prin joc în vederea dezvoltării senzoriale pe fondul diagnosticării cu autism. Se dorește să se demonstreze faptul că exercițiile kinetice pot fi aplicate cu succes la copiii diagnosticați cu autism.

Organizarea activităților de joc cu un autist nu este la fel de ușoară ca și în cazul unui copil sănătos. Prin urmare, trebuie să ne acordăm o muncă lungă și grea. Cu toate acestea, în timp, vom observa primele schimbări, îmbunătățirea condiției copilului, care este cea mai mare recompensă pentru un părinte iubitor.

Evaluarea de față s-a desfășurat pe parcursul a trei luni. În primele săptămâni, băiețelul era rușinos și sfios, nu avea răbdare mai mult de cinci minute, arunca mereu obiectele pe jos, dar după un timp s-a obișnuit cu prezența mea în preajma lui. Pe parcursul evaluării am observat că mingea este una dintre jucăriile pe care le agreează. În mare parte este o fire deschisă, dar are și momente în care este indispus, încăpățânat, neascultând-o nici măcar pe mama lui pe care o iubește cel mai mult.