

Psychological Intervention for Cognitive Restructuring in Adolescents with Asperger Syndrome

Mariana DODAN*

*Clinical Hospital "Prof. Dr. Alexandru OBREGIA", Bucharest, Romania.

Received August 11, 2021; Revised September 03, 2021; Accepted September 06, 2021

ABSTRACT

Context: Cognitive Restructuring as an Essential Part of Cognitive-Behavioral Therapy (CBT) is one of the most effective techniques of psychological intervention to alleviate the symptoms faced by adolescents with Asperger syndrome. The success of psychological intervention for cognitive restructuring in adolescents with Asperger syndrome depends largely on the identification of specific causes to distorted patterns of thinking and the application of techniques to alleviate negative symptoms (attitudes, behaviors and negative expectations, passivity and social withdrawal). In the study (a pilot study), we aimed to identify whether there is a relationship between the variables mentioned (how they can be influenced) and how strong this link is the study was performed on a single group of subjects (N = 10), with the measurement of the effect of the stimulus situation (psychological intervention) after the variable manifested its effect, following the presence of psycho-affective states or traits at a high level (anxiety, tension, depression, anger, aggression, excessive emotion) with negative consequences on self-image and limiting the possibilities of expression of the subject in interpersonal relationships. The aim of this study was to develop a model of psychological intervention focused on cognitive restructuring in adolescents with Asperger's syndrome, allowing the creation of a specific application protocol, so that a high degree of effectiveness can be achieved in the shortest possible time.

Methods: The sample (considered study group) consisted of 10 subjects - patients with Asperger's disorder, selected from children with psychiatric disorders admitted to the Clinic of Child and Adolescent Psychiatry of the Clinical Psychiatric Hospital "Prof. Dr. AL. OBREGIA" Bucharest, using a clinical assessment of symptoms by framing KID-SCID - Clinically structured interview for clinical disorders of infants, children and adolescents.

INTRODUCTION

Cognitive restructuring, as an essential part of cognitive-behavioral therapy (CBT) is one of the most effective psychological intervention techniques to relieve the symptoms faced by adolescents with Asperger's syndrome.

The success of psychological intervention for cognitive restructuring in adolescents with Asperger syndrome depends largely on identifying the specific causes of distorted thinking patterns and applying techniques to improve negative symptoms (negative attitudes, behaviors and expectations, passivity and social withdrawal) [1-3].

The stage of knowledge:

Starting from some thoughts of teenagers with Asperger's syndrome, such as:

"It's hard for me to manage on my own"; "People around me don't understand me"; "Sometimes I don't pay attention to what someone else tells me"; "On the streets I like to look at the number of cars and break it down into prime factors, and

compose words with the letters"; "What bothers me is that I have no friends my age"; "The way someone communicates something to me matters"; "When I am made to carry out an activity that can help me, I refuse it"; "I do not rise to the level of colleagues and high school"; "Every time I lose my confidence I act like the last sucker"; "The main problem is that I don't listen" etc. We identified a triad of deficiencies, which appeared in the behavioral manifestation of adolescents with Asperger syndrome [4]. In terms of social communication, Manifestation of nonverbal behaviors: looking in the face, facial expression, body posture, gestures

Corresponding author: Mariana DODAN, Clinical Hospital "Prof. Dr. Alexandru OBREGIA", Bucharest, Romania, Tel: +40744358069; E-mail: dodanmariana@gmail.com

Citation: DODAN M. (2021) Psychological Intervention for Cognitive Restructuring in Adolescents with Asperger Syndrome. J Neurosurg Imaging Techniques, 7(3): 477-482.

Copyright: ©2021 DODAN M. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

to regulate social interactions; understanding the gestures, facial expressions or tone of voice of the people he comes in contact with; initiating and concluding a conversation; choosing topics for discussion; the use of complex words or phrases without fully understanding their meaning; understanding jokes, metaphors or sarcasm. In terms of social interaction, Difficulties in initiating and maintaining relationships - an anxiety-generating fact - considerable efforts to make and maintain friendships; misunderstanding of rules that are so clear that it is not necessary to think about them (approaching inappropriate topics of conversation or exaggerated closeness to a person); retreat, distancing, detachment (seems uninterested in the rest of the world); adopting behaviors considered inappropriate in relationships [5] manifesting an increased interest in establishing social relationships - along with learning more appropriate ways to respond to difficulties (can learn to apply explicit routines or rules in certain stressful situations). In terms of social imagination, Imagining with difficulty the alternative results to various situations; the inability to guess what will happen next; inability to understand and interpret what other people think, feel or do; they lose the subtle messages conveyed by others through facial expression and nonverbal language; have a limited range of imaginative activities that they use repeatedly and rigidly (align or collect various things); it is impossible for them to play "pretend that ...", preferring topics anchored in logic and systems (such as mathematics). Among the dysfunctions commonly found in adolescents with Asperger syndrome evaluated [6] were identified: Manifested anxiety symptoms: social phobia and especially the manifestation of separation anxiety about one of the parents; they are afraid to speak in front of others because of the concern that others do not understand them or they may feel extreme anxiety when talking to the teacher, for fear that they will seem incoherent or say something wrong; the more intrusive the phobic manifestations, the more the life of the adolescent with Asperger's is limited and restricted to the family space. Depressed symptoms manifested: crying, anger; feelings of devaluation; low self-esteem; suicidal thoughts; self-closure; indifference; progressive disinterest in any type of activity; sleeping disorders; changes in appetite, involving a lack of appetite or on the contrary bulimic behaviors. Behavioral disorders (provocative opposition by avoiding tasks): the more submissive, fearful, withdrawn the adolescent with Asperger's syndrome seems outside the family environment, the more demanding, tyrannical, angry and even aggressive he may become in the family environment.: outbursts of anger, acts of violence against a brother or even one of the parents. He sometimes exercises a kind of authority over the family, as an inverted image of the total loss of autonomy and control in extra-family life. They were also identified: perfectionism, frequent somatic disorders, difficulties in relating to others, low school satisfaction. Frequently comorbid with other mental disorders.

MATERIALS AND METHODS

The sample (considered study group) consisted of 10 subjects - patients with Asperger's disorder, selected from children with psychiatric disorders admitted to the Clinic of Child and Adolescent Psychiatry of the Clinical Psychiatric Hospital "Prof. Dr. AL. OBREGIA" Bucharest, using a clinical assessment of symptoms by framing KID-SCID - Clinically structured interview for clinical disorders of infants, children and adolescents [3]. The selection of subjects was made as follows: the study group included patients with Asperger's disorder (adolescents), using simple randomization [7]. From the point of view of distribution by age and sex, the structure of the study group was as follows: age (15-18 years); sex (all subjects were male).

Other selection criteria were:

- Presence of comorbid mental disorders: anxiety disorders, depressive disorders, disruptive behavior disorders;
- Electrical activity of the brain (EEG): the selected subjects presented the method that investigates the electrical activity of the brain [8] electroencephalogram (EEG) without modifications;
- Level of intellectual development: Medium to high level IQ. Among the methods of evaluation and psychological measurement were used: methods of knowing the personality, through behavioral analysis (observation method; conversation method; method of evaluation through psycho-diagnostic tools and tests: a. Questionnaire method: Berkeley questionnaire - evaluated various aspects of the ego: (self-image; perceived appreciation from others; "the real self"); Rosenberg Questionnaire - which aimed to explore self-esteem in the subjects of our study group; b. test method: Profile of mood state (POMS) test - "Profile mental states" - was used to identify and evaluate transient, fluctuating, less stable mental states: BP: Anxiety (mental tension); DD: Depression; SO: Aggression (anger); VA: Psychic activism (force); OI: Mental fatigue (psych-asthenia), CC: State of confusion, TMD (Total Mood Disturbance) - indicates the disturbance of the general psycho-affective state; Wechsler Intelligence Scale for Children (fourth edition) - which assesses children's cognitive ability; Tree test.

Study Design

The psychological intervention model focused on cognitive restructuring in adolescents with Asperger's syndrome was applied in the period 2016-2019.

The psychodiagnostics tools we chose covered the three main axes of study of a three-dimensional model:

- Individual (all samples) - group (especially the

Berkeley questionnaire);

2. Conscious (all evidence) - unconscious (especially the Tree test);
3. Normal (all samples) - pathological (POMS test).

The dimensions of exploration of the human psyche considered were:

1. the intrapsychic dimension (all samples) and, respectively,
2. the interpersonal dimension (especially the Berkeley questionnaire).

Through the psychosocial assessment tools used in our study (with intra-psychic and interpersonal valences), we were able to appreciate the extent to which the members of the investigated group have a high capacity for externalization, materialized in positive effects of interpersonal relationships. When a limited capacity for externalization was identified, it was reflected in the negative effects of interpersonal relationships. In order to facilitate the processing, analysis and interpretation of the results that the study group (adolescent patients with Asperger's disorder) obtained in the applied tests; we performed the intragroup analysis of the study variables. Centralized and organized in tables, the raw results of the applied evaluation tools were first processed by statistical-mathematical methods and, subsequently, subjected to analyzes and interpretations specific to each method, in order to detach their psychological significance. Thus, we managed to capture that information that came in support of the working hypothesis, favoring us equally, establishing the connections and correlations between those variables, which contributed to the argument of the topic. Because the working hypothesis aimed directly at the influence of the stimulus situation (psychological intervention) on the mental states at a high level of manifestation (anxiety, depression, aggression), in our article we used the presentation of the results of the POMS test (Profile of mood state). The scores obtained by the subjects were expressed using mathematical, statistical and computer methods: Mathematical formalization of the scores obtained by the subjects: the small volume of the sample did not allow the percentage expression (N = 10 in our case), reason for which we did not use percentage expressions, because they would have exaggerated the proportions, the basic graph remaining the histogram.

The ordering and grouping of the data were done by: condensing and centralizing the data in correspondence tables and in graphical representations

- a) for each individual - individual psychological file and individual psychological profile
- b) for the whole group - group psychological profile

The methods of analysis of the results obtained by the applied instruments were of two types:

- a) analysis of latent structures;
- b) factor analysis. The individual psychological structure was highlighted with the help of the individual psychological file and the psychological profile.

As an intermediate form in factor analysis [8] we used cluster analysis (or the method of analysis in groups of variables).

Methods of organizing the study:

the chosen study plan was a mixed, factorial plan. We found the use of mixed design to be extremely useful because:

1. Increases the degree of sensitivity;
2. Provides information about the degree of generality of the information obtained.

The premise from which we started: adolescents with Asperger's syndrome has a socialization deficit.

OBJECTIVE

Learning social skills to manage problematic situations through techniques of: relaxation (muscle relaxation techniques, movement relaxation techniques, relaxation by breathing, autogenic training); cognitive restructuring; training of social skills. The program of psychological intervention for cognitive restructuring in adolescents with Asperger syndrome was carried out in several stages:

In stage 1 we defined the problem, the tried and inefficient solutions, being identified the resistances; we started working with the patient to discover together the mechanisms of the problem and possible exceptions, obtaining agreement on the objectives and achievements to be achieved; we performed the first therapeutic manoeuvres, being given the first direct or indirect indications; I provided practical guidance.

In stage 2 we followed: unblocking the symptoms; cognitive restructuring; evaluating the changes that have taken place; I provided practical guidance.

In stage 3 we achieved: consolidating the new acquired perspectives; reorganization and flexibility of the perceptual-reactive system; improving unlocked personal resources.

In stage 4 the emphasis was on: gaining the patient's independence; explaining the man oeuvres and strategies put in place so that they are tools to help the adolescent with Asperger's syndrome in the future; following the evolution of the improvement of the problems at 3, 6, 12 months. The psychological intervention program included: training to develop social skills focused on communication. At the nonverbal level, intense and prolonged eye contact, improved posture, gait, synchronous movements, increased voice volume, etc. was practiced. At the verbal level, active listening, confidences, public discourse, conversation with strangers, compliment, criticism, free expression of feelings

and opinions, etc. was practiced. To this end, interpersonal and group communication activities were practiced, which developed spontaneity and an attitude of openness to others.

RESULTS AND DISCUSSION

Psychological intervention for cognitive restructuring in adolescents with Asperger’s Syndrome provided emotional, cognitive and behavioral support to succeed: to overcome their fears, to gain confidence in their own strengths, to develop anchored in reality, connected to what is it happens

around [9]. The way of carrying out the psychological intervention aimed at solving (improving) the problematic situation in the plan: physiological, emotional, behavioral and cognitive [10].

1. Physiologically, the goal was to become aware of the types of physical reactions related to anxiety and their relief. Physical reactions: accelerated heart rate; headaches; diarrhea; vomiting; sleep disorders (**Figure 1**).

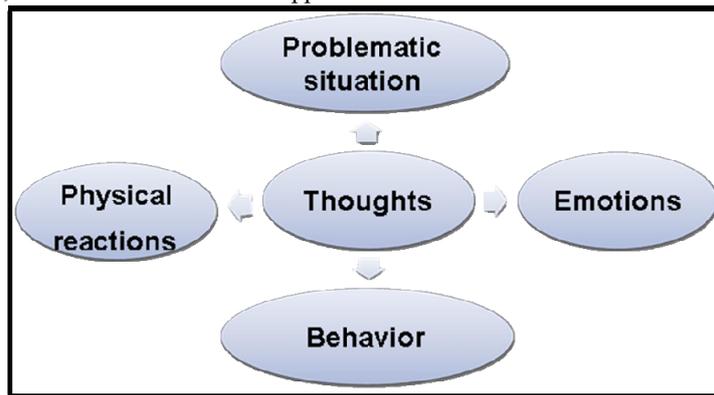


Figure 1. The problematic situation and psychological intervention plan for cognitive restructuring in adolescents with Asperger’s syndrome.

2. Emotionally, the goal was to become aware of the types of emotional reactions and to learn the difference between different emotional states. Emotional reactions: worry; appreciation; excessive shyness.
3. Behaviorally, the goal was to become aware of the types of behavioral reactions and their management. Behavioral reactions: avoidance; suffering; hysteria; weeping.
4. Cognitively, the goal was to become aware of anxious thoughts and beliefs, to identify the connection between thoughts and emotions. Identify cognitive distortions (expects bad things to happen; underestimates the ability to cope with the situation; difficulty concentrating) Cognitive restructuring in adolescents with Asperger syndrome, used a model of psychological intervention to change the thoughts, feelings and maladaptive behaviors that develop and maintain mental disorder, applied in individual intervention, where we could intervene at each level.

The applied cognitive restructuring was a selective process (Ovide Fontaine, Philippe Fontaine, 2008), which did not aim at identifying and modifying all the beliefs that generated emotional and behavioral problems but only those that exacerbated and maintained the problematic situation - distorted (dysfunctional) thought patterns. Cognitive restructuring techniques were used. Among them (dispute techniques: empirical, logical and pragmatic, exploring the meaning of a situation, the technique of reassignment,

examining alternatives and options, then catastrophe, reframing, Socratic dialogue, using paradoxes, scaling technique). Social skills were formed (absence of answers to questions - brainstorming possible answers, combination with cognitive restructuring, role play, assertiveness, inclusion in a group). The evolution of some psychic traits following the psychological intervention was represented by psychic profiles of adolescent patients with Asperger’s syndrome included in the study.

The analysis of the results obtained by periodic evaluations of the test - Psychic Status Profile (POMS), outlined a mental profile of adolescent patients with Asperger’s disorder included in the study compared to the ideal mental profile (“iceberg” model) in terms of emotional states. We noticed that the highest level of average scores obtained **Figure 2** is the variable, tension - anxiety (T-A), characterized by a generalized state of discomfort, described by nervousness, tension, insecurity, agitation; Subjects obtained lower scores on the variable, vigor - activism (V-A), which means a state of activation characterized by malaise, low alertness and a decreased level of mental energy. The scores obtained for the variable, confusion - dismay (C-C), provided information about the subjects regarding the degree of awareness of their tasks in the activities carried out before which we diagnosed the analyzed mental states). The diagram of the mental state profile indicates the factors TA (tension-anxiety) and CC (confusion-dismay) with values much higher than the value considered average (T = 50 points), which shows that at the

time of testing the subjects were not well enough balanced mentally (they had a high level of anxiety). The profile diagram of the mental states also indicates the factors DD (depression- depression) and OI (fatigue-inertia) as having values lower than the value considered average (T = 50

points), which shows that the researched subjects are characterized by a state that describes a low level of mental energy (fatigue, boredom, exhaustion) and personal inadequacy (discouragement, loneliness, devaluation).

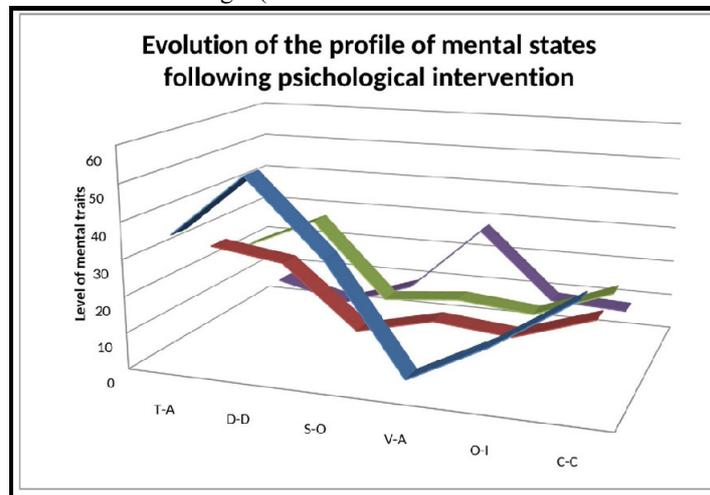


Figure 2. The diagram of the level of mental states presented compared to the “iceberg” model - ideally, in the study group (adolescent patients with Asperger syndrome).

Legend: tension-anxiety (T-A); depression-depression (D-D); anger-hostility (S-O); force-activity (V-A); fatigue-inertia (O-I); confusion-dismay (C-C) n Where: “Iceberg” profiles - ideal profiles

Profile: first evaluation (initial assessment) Profile: second evaluation (after one year) Profile: the third evaluation (after two years).

CONCLUSION

Knowing that the high level of psycho-affective traits negatively influences the interpersonal and emotional dimension of the personality of the adolescent patient with Asperger syndrome, the presence of negative psycho-affective states (anxiety, stress, depression, anger, aggression, excessive emotion) limits the possibilities. their expression in interpersonal relationships. The purpose of the applied psychological intervention was: to develop a model of psychological intervention focused on cognitive restructuring in adolescents with Asperger’s syndrome, which would allow the creation of a specific application protocol, so that a high degree of effectiveness can be achieved in a short time and with lasting results. Accompanied by drug treatment in most cases of adolescent patients with Asperger’s syndrome, the psychological intervention improved the clinical results. The application of the intervention generated improvements in terms of improving the level of negative symptoms (anxiety, fear, depression, anger) based on an assessment of the size of the effect. The results obtained support the effectiveness of psychological intervention through cognitive restructuring regarding the behavioral manifestation of adolescents with Asperger syndrome. Regarding treatment and psychological intervention, we argue that there is no single treatment or as the best for Asperger syndrome. For adolescents diagnosed

with Asperger’s syndrome, cognitive-behavioral therapy has been particularly useful in learning social skills and self-control of emotions, obsessions and repetitive behaviors. Psychological intervention programs that aimed to learn social behaviors and train skills to adapt to problematic situations for adolescents with Asperger syndrome, used highly structured activities [11]. Repeatedly used instructions helped to strengthen adaptive behaviors. Among the principles that are extremely important for psychological intervention for cognitive restructuring, we mention: early identification and intervention [1] establishing intervention plans to provide a structure; psychological intervention plans to include - validation strategies: cognitive, emotional, behavioral; optimism and perseverance.

We can say that to overcome the problematic situation, adolescents with Asperger’s syndrome must:

1. To give up avoidance behaviors (to speak in public, to participate in social events);
2. To give up the insurance behaviors (to keep the hands behind the back so as not to notice their trembling);
3. To experiment in the behavioral sphere (which ensures the possibility to verify the reactions of those around);

4. Learn a relaxation technique (to reduce symptoms);
5. To learn some suggestive formulas of self-encouragement (in order to increase the self-confidence and to make it easier to experiment in the practical sphere);
6. To change their irrational beliefs and replace them with more adaptive ones ("it is catastrophic" to be replaced with, "it is unpleasant, annoying, bad... but it is not the worst possible thing").
9. Holdevici I (2009) Treatise on cognitive-behavioral psychotherapy, Trei Publishing House, Bucharest.
10. Jeffrey EY, Janet SK, Marjorie EW (2003) Schema Therapy - A Practitioner's Guide, The Guilford Press, New York.
11. Millon Th, Lerner MJ (2003) Personality and social psychology, in: I. B. Weiner (ed.), Hoboken, John Wiley & Son 5.

The study was performed on a single group of subjects (N = 10), with the measurement of the effect of the stimulus situation (psychological intervention) after the variable manifested its effect, following the presence of psycho-affective states or traits at a high level (anxiety, tension, depression, anger, aggression, excessive emotion) with negative consequences on self-image and limiting the possibilities of expression of the subject in interpersonal relationships. In the study (a pilot study), we aimed to identify whether there is a relationship between the variables mentioned [2] and how strong this link is. The results obtained even if they are based on a limited number of cases, can be used in further research, with a coverage of a larger number of subjects (adolescents with Asperger syndrome) in experimental groups, which will be able to validate these results and to make decisions about how psychological intervention could be used to address patients with the same mental disorder (in our case, Asperger's disorder).

REFERENCES

1. Sanchack KE, Thomas CA (2016) Autism spectrum disorder: Primary Care Principles. Am Fam Physician 94(12): 972-979.
2. Van TE, Hundley V (2002) The importance of pilot studies. Nurs Stand 16(40): 33-36.
3. David D (2007) KID-SCID - Clinically structured interview for clinical disorders of infants, children and adolescents. Editura RTS.
4. Duck S (2000) Interpersonal relationships. To think, to feel, to interact, Iași, Polirom.
5. Berscheid E, Regan P (2005) The Psychology of Interpersonal Relationships, New York, Prentice Hall.
6. Andrews G, Creamer M, Crino R (2007) Psychotherapy for anxiety disorders. Practical guide for therapists and patients. Bucharest: Polirom.
7. Romagnoli G, Leone A, Sansoni J, Tofani M, De Santis R, et al. (2019) Efficacy of occupational therapy in children with Asperger syndrome: a systematic review of randomized controlled trials. Clin Ter 170 (5): e382-e387.
8. Duffy FH, Als H (2019) Autism, spectrum or clusters? A study on EEG coherence. BMC Neurol 19(1): 27.