Integrated Motor Activities and Autism Spectrum Disorder: Biodanza Srt and Multisystem Water Therapy (Mwt)

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Abstract

This contribution aims to outline the Biodanza SRT and the MWT as innovative strategies among the educational-didactic proposals for people with Autism Spectrum disorder who, throughintegrated systemic-relational approaches to body mediation, determine the increase of psychological, motor, emotional relational well-being, and the improvement of the Quality of Life (QoL). Conceiving ground and water motor activity in inclusive terms means realizing valid paths of integrated motor activity adapted to the special educational characteristics and needs of people with autism, thus recognizing their indispensable human, educational, inclusive and social value.

Keywords

Autism Spectrum, MWT, Biodanza SRT, Inclusive Didactics/ Inclusion

Introduction

Autism Spectrum Disorders (ASD) are part of the generalized (being them related to the whole organism) Pervasive Developmental disorders with early onset, and are divided into various forms: Autism, Asperger's Syndrome, Rett's Syndrome, Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS), and Childhood Disintegrative Disorder. The definition "Autism Spectrum" means that the disorder affects each person differently, varying from a mild to severe symptomatology that accompanies those affected throughout their lives. To date, the exact causes of this disorder are still unknown, supposing that this is a pathology with multi-factorial causes.

Autistic syndrome is very complex, it presents a Syntomatologic Triad (DSM IV and ICD-10) with the compromise of three major areas of development: affective area, linguistic area, social area and consequent problems in social relationships (impairment in the use of non-verbal behaviors such as gaze and gestures, together with the lack of the "mind theory"), in verbal communication (retardation or total absence of spoken language), in behavior (restricted, repetitive and stereotyped activities and interests, sometimes accompanied by aggression) thus manifesting itself with an extreme difficulty in establishing relationships with others, learning a language and social skills.

It is also possible to find additional associated symptoms: specific motor difficulties, stere-otyped attitudes, sensory hypo/hypersensitivity, abnormalities in the use of the senses, mental retardation, epilepsy and its associated characteristics (Self / Heterinjuty, Aggressiveness, Unpredictable reactions, Abnormalities in mood, food habits, sleep or perception of danger, and physiological dysfunctions).

In some cases the functions could instead be exceptionally overdeveloped and there could be "splinter skills" such as memory, musical or mathematical skills (Riva, 2000)

There is no cure for autism but, in recent years, in addition to actions related to school integration, rehabilitation, and work placement, emphasis has been given to physical activities and sports, and especially to unconventional practices that involve the whole body, employing psycho-educational interventions integrated to bodily mediation with systemic-relational approach, in order to respond to a more global vision of what is the well-being of people with autistic syndrome

Motor activity is a very important resource for the individual's proper development. Through the discovery and the exploration of one's own body and the environment, the movement and the individual/group playful activity, the subject with autism has the possibility to develop functional abilities in the areas mostly affected by the disorder (communication, social interaction, interests and behavior in general), and learn the many skills of the different development areas, having better knowledge about himself and others, about his own potentialities and limits, and about the social and emotional rules that regulate interpersonal relationships.

Educating through analogical languages such as play, movement, expressiveness, non-verbal communication and emotional and empathic resonance (lived in groups), offersthe child with autism a real opportunity to early acquire, in integrated contexts, the main preconditions of primary and secondary intersubjectivity, the primary categories of space and time, the basic social rules and the most suitable behaviors in different contexts.

The specific purpose of ground and water motor activities in the autistic spectrum is that of stimulating the transformation from dumb body (subtous and passive) into a "living" body (perceived and experienced), favoring the explication of theexplorative, symbolic, organizational, constructive, and regulatory functions (Salvitti, 2001), useful for acquiring skills that can be spent in everyday life with respect to the knowledge and care of one's own body, the management of anxiety and stress through the learning of effective methods of emotional self-regulation, personal autonomy and healthy lifestyles, and Possible Relationships.

The activities carried out in group are a further resource as they act on the educational

dimension of the behavioral evolution, and become a "training ground for life" through which to acquire new cognitive, affective and relational abilities, generating those skills that grant autonomy in everyday life spaces management. (Montesano, Peluso Cassese, Tafuri, 2016). The experience of integrated activities such as Biodanza and MWT in the pool allow autistic children experiencing themselves, for the first time, in a group environment external to school, helping them make important progresses in the field of personal autonomy, social reciprocity and spontaneous communication. Furthermore, it allows all the other participants learning new ways of constructive interaction and improving their motor and social skills, while raising the quality of interpersonal relationships within the group and encouraging the friends within the group to keep involving their fellows with autistic syndrome in even further activities.

In this perspective, bodily mediation and non-verbal, analogical, expressive-motor, playful and imitative communication skills are essential for the construction and generation of welcoming and inclusive educational environments too.

1. Special education and Motor Activity as Inclusive Didactics

In the perspective of inclusive didactics, not only differences are accepted, but they are also stimulated, valued, used in daily activities to work together and grow both as individuals and as a group (AA.VV., Erickson, 2015).

Starting from this dimension, while favoring the development of psychosocial abilities in everyone's personal, social, interpersonal, cognitive and affective area, Motor Sciences represent the "elective space" in which to experience oneself, and simultaneously become the "privileged means" through which identity, self-efficacy (Bandura, 1996/2000), self-esteem, personal autonomy and ecological relationships can be developed and consolidated in people.

If integration aims at searching for what does not work in the individual, and at identifying specific solutions, inclusionis a process based on everyone's active participation in school life, by identifying and removing barriers that may hamper learning. Inclusion must start from *special normality*, that is, from the need to feel like everyone else and the need to be considered in relation to one's own characteristics.

In the perspective of an Inclusive Didactics, there can be four lines of intervention (Ianes, 2001):

- 1. Professionalism of teachers;
- 2. Class Climate;
- 3. Learning methods;
- 4. Contents and tools "(Miato, Miato 2003).

The teacher assumes a facilitating role when he takes care of the student in his entirety, and a strategic role in the promotion of a good class climate.

The class group is an educational and didactic resource where everyone can draw energy and support to dedicate himself to his own self-realization and well-being, cultivating values such as hospitality, solidarity and responsibility. (Polito, 2000)

"A more inclusive school climate allows everyone feeling accepted, understood and valued; it develops the sense of belonging, of positive interdependence and empowerment; it contributes to creating a solid socio-affective ("I feel loved, respected, considered"), communicative ("Everyone listens carefully to what I say and really cares about my point of view") and relational basis ("My class makes me feel fine, there is friendship, mutual help, solidarity and someone's problem becomes everyone's problem»)» (Miato, Miato, 2003).

Inclusive didactics is everyone's didactics, aimed at personalizing and individualizing the interventions through active, participatory, constructive and affective methodologies. Cooperative learning is "a teaching methodology with social mediation, which involves the intentional use of small groups working together to maximize their mutual performance" (Johnson & Johnson, 1987). Going "from the auditorium to the laboratorium" is an educational strategy that can

create an inclusive environment based on the principle "... according to which each member of a group, with his peculiar and special characteristics, can contribute to the learning of all, and everyone can become a resource (and compensatory tool) for the others "(Ianes, Cramerotti, 2013).

In the didactics of motor activities the challenge is to achieve "Motor interventions for everyone" that, regardless of skill level or age, and in respect of individual differences, can guarantee personal gratification, the improvement of *performances* and, above all, a full inclusion in the context of normality (Mura, 2009).

2. Biodanza SRT (Rolando Toro System)

Biodanza SRT (Rolando Toro system) is an experiential ideal-affective-motor system (Toro Araneda, 2007) that, through the experience of the body, emotion and encounter, re-establishes the balance between "feeling, thinking, and acting".

It is a methodology with a systemic approach based on a *Biocentric education* (life at the center), which sets itself as odily mediation-based Holistic Social Pedagogy ,finding its foundations in the sciences of life (in particular, in biology and physiology) by also taking inspiration from the foundations of Psychology, Anthropology, Sociology and the most recent research of Neuroscience and Human Sciences.

Through Biocentric Education, the Biodanza SRT methodology aims at promoting the integration between learning and "embodied" knowledge by means of the body languages and emotions, in order to facilitate affective education and the person's overall and harmonious development (Toro Araneda, 2012

Biodanza is a system of Human Integration, organic renewal, emotional re-education and re-learning of the original functions of life, which favors an *Existential rehabilitation*(biopsychosocial) and *Personal Empowerment*, awakening the attention towardsoneself, the others and the context, empathy, self-esteem, self-efficacy, the ability to listen and the strengthening of a healthy identity.

It stems from Rolando Toro Araneda's personal experiences, studies and research; the Chilean psychologist and anthropologist, in the 1960s, starting from the centrality of body and movement as an expression of life, decided to create the Biodanza Pedagogical System. The term Biodanza (Biodance) comes from the Greek prefix *Bios*, which means "Life", and the French word *Danse*, which means an "Integrated emotional movement", and its translation is: "*The Dance of Life*". By making reference to his origins, he promoted a dance conceived as a holistic reality, in which a subject's bodily, emotional, social, intellectual and spiritual aspects are combined. Dance "constitutes the unity of man and his environment, of the individual and his group, of the body and the spirit" (Garaudy,1985).

Making "one's own dance" in Biodanza means integrating one's own feelings with one's own actions, realizing a communion between the feelings and emotions that animate us and their visible expression of our moving in the world; thus it doesn't mean emulating a movement to perfection or learning pre-established movement codes.

The Innovative Methodology of Biodanza SRT proposesexperiences lived in the "group" (as a strengthener of identity andsense of belonging to a common feeling) and is strictly based on a Gestalt¹ using specific exercises generated by the interaction between: music (universal language), movement (natural expression of the human being), emotion (existential sensibility), vivencia (the moment lived with intensity in the "hic et nunc": in the" here and now "), encounter (as a reinforcement of identity and belonging), thus representing a place of human

¹ With the term "Gestalt" Rolando Toro Araneda refers to the definition given by Kurt Lewin: "a system in which the parts are dynamically connected, so that the change of one part produces a change in all the others ". (Toro Araneda, 2007)

encounters, where the everyone's differences are recognized, valued and accepted in the broadest feeling of belonging to Humanity.

The Biodanza SRT system is based on the reality of the encounter, and on the fact that personal identity, as well as music, "absorbs" the relationship with the other. It is the body that, starting from the prenatal age, allows us encountering the world. We are "embodied minds"; mental processes develop and are modulated by our corporeity, and empirical data show that intercorporeity is the basis of intersubjectivity "based on an access that lies on the exercise of a fundamental way of relating with the world: the empathic relationship (Gallese, 2016).

During the Biodanza sessions, a real "empathic network" is built, which constitutes in all respects a group intersubjective space within which there is a continuous exchange of experiences, an emotional resonance and a mutual recognition allowing the participants being reflected in each other, recognizing themselves, discovering one another reciprocally, by strengthening one's own identity and restoring awareness of one's own transformation and change process (Toro Acuna, Demelas, 2013). The Biodanza group function is essential. The group is a matrix of rebirth in which each participant finds the affective control that grants him a change. The presence of the "similar" changes the person's functioning at all his levels, both organic and existential. (Toro Araneda, 2012).

The Biodanza SRT System is part of the broader panorama of the human sciences, proposing itself as an educational perspective that aims at promoting the human value of each person, by representing, in this sense, an inclusive reality for all those people who live a difficult condition or not (Ghedin, 2016). The inclusive environment takes care to foster everyone's participation, gives value to the individual, recognizes him in his own uniqueness, welcomes and surrounds him, so that he can feel totally part of the community and make his own contribution to it, thanks to his talents and personal resources (Pavone, 2010).

Research studies have showed the effectiveness of Biodanza on the regulation of one's own behavior, on the stress management, on the promotion of a certain degree of serenity, optimism, autonomy, on the mastery of the environment in which a person is, on the adoption of autonomous actions and on the establishment of positive relationships with others (Stueck, Villegas, 2012; Giannelli, Giannino, Mingarelli, 2015) as reduced apathy, improved life quality and better walking control (Rosa et al., 2015). From the study carried out in the field of mental health, greater ability to "perceive one's individuality and, at the same time, a similarity with others, bynot perceiving oneself as 'different'" but as part of the group" was found in the participants (Ghedin, 2016).

The Biodanza SRT System, through a person-centered approach aiming at facilitating and non-judgmental climate (with respect and attention to oneself and the other) induces people to establish "functional" interpersonal relationships, and live their lives fully and creatively. Positive vision (optimistic attitude), confidence in one's own possibilities (self-efficacy), active listening (effective communication), development of potentialities (self-esteem), empathy and emotional management are essential prerequisites for personal and collective growth and development. (Rogers, 1980).

The Biodanza SRT laboratory proposes an experiential/vivencial approach lived in a group with mainly practical and interactive settings. Relevant is also the aspect of emotional re-education that aims at fighting against the condition of aridity and sterility of human relationships, where the possibility of establishing meaningful emotional bonds is often hampered by a destructive and violent society (Toro, 2007/2013).

The Biodanza SRT system is not considered as a therapy for it does not act on any symptoms, conflicts or disorders, but it therapeutically stimulates the person's "healthy part" through dances/exercises that form inductive models of Integrating Vivencias. Its inclusion in programs or protocols is not intended as an "alternative" proposal, but as a further strategy to be integrated with the actions already implemented in the different contexts.

3. Multisystem Water Therapy (MWT)

Multisystem Water Therapy (MWT) is a method developed in Italy by two psychologists, the doctors Caputo Giovanni and Ippolito Giovanni; it is the result of over 25 years of experience with children with autism spectrum disorder, generalized disorders of development and other diseases.

It is a therapy that, within a structured environment (pool), uses water as:

- Emotional, sensorial and motor activator, able to drive the subject with communication, relational, autism and generalized development disorders towards a meaningful relationship.
- *Relational activator*; as it induces the child to an "instinctive bond" to the therapist who, in turn, will have to transform this first contact in a positive sense.

It is defined as *Therapy* for it is implemented according to a theoretical model of reference that, through technical and specific methodologies and procedures of individualized and interpersonal intervention, has the aim of being part of a global rehabilitative project, which particularly takes care of the relational, emotional and social integration aspects of autistic subjects. The definition *Multi-system* pertains to its assessing character, and acts on the child's different functional systems, i.e. on his relational, cognitive, behavioral, emotional, sensory-motor and motivational system.

The water environment generates an impressive mass of completely new sensations (of visual, tactile, kinesthetic and labyrinthine type) while, at the same time, the usual and reassuring signals of the ground are lacking. The sensorimotor system (perceptual system + motor system, strongly connected with each other) is overwhelmed by a large amount of unknown information and goes "into crisis" (Di Palma, Ascione, Rosa, 2018)

The MWT methodology is divided into 4 phases (evaluative, emotional-relational, sensory-recreational, social- integrative) and employs cognitive, behavioral, relational and motor-sense techniques.

Through MWT, the ability to adapt to the environment that presumes the activation of cognitive abilities is stimulated, highlightingincreased mnemonic, attentive and motivational abilities (showing interest, remembering places, spatial collocation, reference figure, showing pleasure in 'getting into the water') in the child. Furthermore, it also positively acts on the behavioral system with the adoption of behaviors gradually adapted to the context, allowing for the disappearance or weakening of any "problematic behavior".

Into the water, the child freely explores movements, objects, and environment, according to his own attitudes, by experiencing the simple pleasure of discovering and using his body potential, thus learning to know about himself, his limits and abilities.

By acquiring *motor mastery*, life quality will be improved too, by allowing the autistic child getting out of isolation, expressing his potentialities, *feeling capable of doing something* (Self-efficacy. Bandura, 1997), and increasing self-esteem.

In the pool, the child with autistic syndrome adheres to social and environmental rules that inevitably also activate his emotional system, making emerging emotions that, once recognized by the therapist, are supported to be contained or expressed. The constant establishment of the relationship helps the person regulate his behavior, endure frustration, mediate the encounter with the other and manage emotions by developing emotional and relational intelligence (Goleman, 1995, Gardner, 2013).

Water and the proposed activities performed into it also activate the sensory-motor system by facilitating coordination, internalization of the sense-motor patterns and activation of the "sensory-motor intelligence" (Piaget, 1967), characterized by the direct action that the child performs on objects by "activating" functional assimilation and accommodation schemes (Ferraris Oliviero et al. 1991).

Sense and movement are the first "knowledge mediators" (Piaget, 1967; Vygotskij, 1973) which, although initially fragmented and disordered, turn out to be the starting point for the

elaboration of individual information in mental schemes and thought structures.

In therapeutic interventions, the importance of environments enriched with numerous and differentiated stimuli are fundamental. They constitute significant recovery tool from which immediate gratification can result (D'Ulisse, Porcaro, 2000). Motivation and gratification are at the base of every rehabilitative intervention as they favor the learning, memorization and consolidation of what has been learned.

The public pool, although particularly noisy for children with autism, offers opportunities for socialization and interchange in the peer group, andthe meeting in a joyful environment provides them countless advantages compared to the development of potentialities and their ability of being in a relationship.

Water is also the recreational space par excellence where it is easier to promote a game through body and relational interpersonal exchanges, promoting a bodily and emotional integration. All children increase their motor, cognitive and emotional agility while playing. The child experiences everything he cannot do in reality thanks to the fantastic world of games, thus increasing his knowledge of the world to face it with greater confidence (Isaac, 1978). The game is a great educational tool that develops imagination, fosters creativity and learning and, in its various components (discovery, exploration, manipulation, action), grants access to symbolization.

Through the MWT, also disabled children and those with autism, having great difficulties related to the game, learn to reflect upon things, have exchanges, search for other people, make discoveries, act and make mistakes (Laxer, Ritvo, 1992), channel aggression and interact with the world. The game must always be played in couple and not by a child alone; it must be active and never passive, no one (child-therapist) must be subjected to it, but it must be shared (Caputo, Ippolito, Maietta, 2008).

It is precisely into the water that those intense emotions are activated, making it possible to reach the therapeutic objectives to develop intersubjectivity and the motivation to the relationship, and to the problem solving. Family dynamics are also modified thanks to the parents' real perception of their children's changes, thus regaining trust in their potentialities.

The autistic child who happily passes the early stages of therapy can subsequently be included in the swimming school groups. The swimming techniques and skills acquired are used as a vehicle to achieve therapeutic goals, and to subsequently implement the fundamental process of socialization and integration with the peer group.

In the MWT, Swimming and Water Motor Activities are considered as "means" for the person's integrated development, and not as an "end". The planning of individualized interventions is based on the human relationship, and they are aimed at the re-education of motor, cognitive, behavioral, communicative, emotional and relational reciprocity schemes. Interventions act (or may act) on symptoms weakening by positively modifying communicative-relational processes, inducing behavioral changes, and social interaction.

Conclusions

With respect to the educational needs of individuals with autism spectrum disorders, the implementation of interventions through integrated motor activity offers everyone effective tools for social interaction, for managing emotions and knowledge, and for the enhancement of individual differences.

To realize effective motor experiences in inclusive contexts, it needs to take into account the educational, human and social value of motor activities in the growth process of any individual, recognizing the importance of the body, of corporeality and of emotions in relation to learning, to the construction of personal identity, to the relationship with other individuals and the exploration of one's own potentialities. We can state that Biodanza SRT and MWT are effective strategies in the integrated treatment of the autistic syndrome. By involving people

at physical, mental, emotional and social level, they aim at creating new patterns of movement that integrate the individual's emotional and motor components, generate adaptive responses aimed at strengthening self-esteem, self-efficacy, communication-relational skills, motor skills, behavioral and communication skills.

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