

COVID-19 PANDEMIC EFFECTS ON BLIND SUBJECTS

EFFETTI DELLA PANDEMIA DA COVID-19 SUI SOGGETTI CIECHI

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Abstract

The behavior of blind children/adolescents changed profoundly during the lockdown period. Forced inactivity and prolonged physical distancing led to changes in social behavior. The daily habits of relationships, school and sports activities to be carried out in presence were distorted by the restrictions resulting from the spread of the Covid-19 pandemic. The effects of this pandemic were substantial and the real consequences are still unknown. Blind subjects showed a regression in the autonomies they had gained, weight gain and the assumption of implosive postural vices, indicating further acquired discomfort.

Il comportamento di bambini / adolescenti ciechi è cambiato profondamente durante il periodo di lockdown. L'innattività forzata e l'allontanamento fisico prolungato hanno portato a cambiamenti nel comportamento sociale. Le abitudini quotidiane di relazioni, attività scolastiche e sportive da svolgere in presenza erano distorte dalle restrizioni derivanti dalla diffusione della pandemia del Covid-19. Gli effetti di questa pandemia sono stati sostanziali e le conseguenze reali sono ancora sconosciute. I soggetti non vedenti hanno mostrato una regressione delle autonomie acquisite, aumento di peso e assunzione di vizi posturali implosivi, indicando un ulteriore disagio acquisito.

Keywords

Covid-19, Physical activity, blind, posture
Covid-19, Attività fisica, cieco, postura

Introduction

The behaviors of individuals are characterized by innumerable activities, among which those related to movements and forms of relationship emerge. The result, determined by the ability to carry out these activities more or less adequately, allows to achieve set objectives. The motivations (Duda et al., 1995) that push an individual to practice physical activity (Vitale, 2017) and sport are multiple and subjective, and range from the need to learn about body and motor patterns, with the aim of achieving good performance, to the desire to compare oneself with others for pure fun, in order to be an integral part of a group (Di Onofrio et al., 2019), and to overcome obstacles.

Therefore, in this perspective, the motivations of a disabled sportsman do not appear so different from those of a non-disabled sportsman. Among the main reasons behind the choice to practice physical activity there is the gratification of body kinesthesia, that is, the satisfaction that one experiences in moving one's own body, in perceiving the efficiency of large body systems and of the locomotor system in particular, with the perception of having efficient, active and energetic muscles capable of enabling harmonious and effective movements. In fact, it is estimated that 30% of adults in Italy aged between 18 and 69 are sedentary (Istat, 2016); International Organizations recommend to carry out regular physical activity and to adopt a healthy lifestyle with adequate information on energy needs, and on the well-being resulting from physical activity and food hygiene from childhood.

These premises must harmonize with the protection of health, which is one of the main objectives of the World Health Organization and of all the member states of the United Nations, since the lack of movement, i.e. the hypokinetic disease, leads to the onset of pathologies and overweight problems.

The "Global Action Plan for Physical Activity 2018-2030", worked out by the World Health Organization ("More active people for a healthier world"), indicates a relative reduction of 15% in the overall prevalence of physical inactivity in adults and adolescents by 2030 (WHO, 2018-2030).

Physical inactivity is a worldwide problem (Kohl et al., 2012) that causes 3.2 million deaths per year globally, reaching fourth place in the list of risk factors. Theoretically, a complete eradication of physical inactivity would eliminate from 6% to 10% of the main non-communicable diseases (Lee, 2012).

At a global level, therefore, the phenomenon of the Covid-19 pandemic has determined and aggravated numerous problems both among able-bodied and more fragile people. The forced staying at home, physical inactivity, the difficulty of establishing relationships has shown a regression in the development of blind people. Physical activity represents an essential basis for a normal psycho-physical growth of the blind persons, it affects their development and motor gesture, their expression of life is carried out with considerable difficulties as the lack of sight is an obstacle for achieving motor and psycho-sensorial goals, with the adequate auxological-motor correlation.

1. The psychophysical and sensory condition

The feelings of disadvantage determined by the condition of blindness are compensated by the increased use of other senses in view of a configuration of vicariating senses. With the improvement of the sensorial substitute, those who have lost their sight will learn to develop their autonomy through the acquisition of writing and reading, postural control, space management and the consequent remodeling of their orientation ability.

The blinds-from-birth or who have lost their sight in early childhood differ from the others both from a somatic and psychic point of view. Although their physical development is appropriate for their age, they lack in reactivity and movement; the risk is represented by the onset

of functional and organic deficit, because the muscles, kept at rest for a long time, will not be able to reach normal development; likewise the various functions of the vegetative life will be affected together with the brain development. The subject is very often presented as apathetic, hesitant, clumsy, and this is due to the continuous immobility of the body which gives it a very particular characteristic.

The blind-from-birth subject can never have a concrete idea of light, color, physiognomy, landscape, and background; education and training will be fundamental, but instead of image and visual idea, he or she will replace approximate images and ideas, with respect to space, depth, height, distance and relationships between things, with perceptions aroused by the results of the meticulous analyses that he or she has experimented with the help of the other senses. The difference between the born blind and the adult blind is therefore evident. The former will always have deficiencies that are difficult to fill, while the latter will take advantage of all his or her past experience as a sighted person, and will always have a considerable patrimony of visual memories available.

The difficult structuring of body and motor patterns is an obstacle towards achieving the autonomy of the blind person. The essential prerequisites for a correct psychomotor development, on the other hand, are constituted by the adequate knowledge of the body pattern and of the relationships with the environment, the correct acquisition of posture, the awareness of one's own image projected in a spatial dimension perceived and acquired by means of the residual vicariating senses. The lack of a component such as sight affects the sensorial and neurological relationship that the subject establishes with his / her own body and with the external world (sensation), as well as the relative psychic awareness (perception). The reactive ability to the different forms of stimuli that come from outside one's own body is evidenced by the exteroceptors, distributed over the entire free surface of the body (for example the tactile receptors) or collected in specialized sense organs (eye, ear, and so on), while the reaction to internal stimuli, originating from the position and movement of the organism or its parts, occurs through the proprioceptors, located in the various organs of the locomotor system (muscles, tendons, capsules joint etc.).

2. The value of the school

Over the past decades, the school has reconfigured its role by changing the initial learning function / environment with transmission modes based on the educational / training function / environment (Sirico et al., 2018) with inclusive characteristics (Montesano, Peluso Cassese, Tafuri, 2016).

The condition of disability has benefited from this inclusive process both architecturally, with the effort to eliminate barriers (Justine et al., 2013), and relationally, with the facilitation of interpersonal relationships, as well as at educational level, with the possibility to plan a personalized course and to enhance special didactics, with the aim of making the disabled student feel the same as the others through the social dimension of learning.

The learning process, in all disciplines, has always been stimulated through face-to-face didactics (Pignato, Coppola, Manzo, 2016), up to the Covid-19 pandemic which forced people to stay at home and use telematic didactic methodologies (Distance Learning). From a didactic point of view, it is necessary to indicate a training course aimed at reaching well-being and happiness, involving the entire personality of the subject at a cognitive (Budde et al., 2008), emotional, organismic and physical level, in an experiential way (Rogers, 1973).

In the motor field, the condition of normal school attendance allowed the teacher to plan and evaluate the opportunity to administer motor loads appropriate to the conditions and actual skills of the students, taking into account that the motor load does not refer exclusively to the motor component, but that it includes biological, neurological, psychological and metabolic dimensions that contribute to the harmonious development of the subject. Indeed, the movement

is understood as an integrated language that contributes to the process of developing personal autonomy in all its aspects, that is, the morphological-functional, intellectual-cognitive, affective-moral and social one, and contributes to the process of holistic formation of the person.

The scan of the activities and the progressive administration of motor loads must determine the adaptation of the subject to performing increasingly complex actions, both from a quantitative and qualitative point of view. The specific responses of a subject to the motor proposals thus configured are a function of a series of endogenous and exogenous factors, also related to genetic characteristics. Genetic heritage, environmental influences, and psycho-physical characteristics, are the variables that determine the applicability of a motor program and the consequent responses.

Motor load in second childhood, pre-adolescence and adolescence, must therefore be administered according to numerous variables. It must respect the principles of Versatility and Multilaterality that are applicable through the appropriate scanning of the following factors:

- Intensity of stimuli;
- Density of stimuli;
- Duration of stimuli;
- Volume and frequency of stimuli;
- Frequency of the activity.

In this perspective, the blind person has always needed particular attention, not so much for his or her ability to perform complex exercises / actions, always considering the real conditions, but with respect to the processes of adaptation and acceptance of both environments and other members of the classes / groups, as well as of the proposed exercises.

Specific attention has always been paid to the observation and possible correction of incorrect postures that could have affected the activity and its results. The progressive adaptation to motor loads was pursued by using the game to allow the physical, motor (Spera et al., 2019), technical and psychological characteristics to be adequately developed with harmonious growth processes, in an educational and didactic continuum marked by the evolution of the game from spontaneous to organized, finalized and regulated.

Through the game, the blind person tends to satisfy the natural need for movement, for action, thus satisfying his or her curiosity, desire for knowledge and affirmation: playful activity therefore has an important psychophysical and social meaning ; it is an effective means of learning that involves the whole person and a valid therapeutic-rehabilitative tool, since it facilitates the development of the subject-environment relationship. For the blind person, game plays a very important role in the normalization process and has a threefold function; it is liberating, because it helps overcome the fear of space and obstacles; it compensates, since its residual vicariating senses will compensate, well educated, for the deprivation of sight; last but not least, it removes or reduces the side effects of blindness.

The importance of the game has been the subject of attention of numerous scholars. Bettelheim attaches the game the importance of the emotional and affective development of the child as << it is the main road to get to the inner world of the child >>. Bulher says that the game not only means self-satisfaction, but also << pleasure of function >>. Laeng believes that the game teaches us to move, to imagine, to think and Piaget and Bruner describe it as a vehicle for development in terms of practice, image and symbol.

In addition, the global vision of the effectiveness of the game leads back to educational dimensions such as exploration (the child / teenager expands his or her knowledge and is driven by curiosity as the primary motivation for the game); catharsis (the child / adolescent temporarily withdraws from the situation in which he or she is placed by reality); simulation (experience in situations not under the direct control of the adult and development of social skills); acceptance of regulations (the child / adolescent takes part in the active construction of the rules and is an actor in the regulatory process); application (the child / teenager respects the deliveries and begins to develop personal characteristics which he or she must then transform into specific techniques); and assessment (the game, regulated and codified, allows the child to make assessments and open up to self-assessment).

The skills of the blind person who plays to build, to feel, to explore and conquer the world around him or her, are highlighted by the development of concepts and behaviors favored by the progressive transition from free play to previously-codified game, and then to sporty game.

3. Lockdown effects

The beneficial effects (Juonala et al., 2011) commonly recognized in sports on able-bodied people are even more accentuated for the weaker and disadvantaged subjects (Di Russo et al., 2010), as they act on suffering and discomfort that need help, support, alleviation and distraction from the difficult daily reality. Movement causes an improvement in the physical condition of the subject (cardiovascular and respiratory system, muscle tone, neuronal connections, neuro-vegetative functions, and so on) with significant benefits in those subjects who tend to have a sedentary lifestyle (Anokye et al. , 2012) not very open to dynamic stimuli, which usually should characterize people's daily routines (walking, running, jumping, cycling, climbing and descending stairs, going by bus, and so on).

Motor activity, carried out both at playful and sports level, has a high educational value for the visually impaired ones, especially if practiced in group, in relation to its associational aspect based on interpersonal relationship, interaction, cooperation and subdivision of tasks among group / team members, being all involved in the success of an activity and in achieving a common goal. Through sports, the visually-impaired subject, following a constant and continuous contact with other subjects, has the possibility to get out of his or her isolation by acquiring greater security and confidence in his or her own abilities, and a more precise image of himself/herself in space. These conditions have ceased to exist due to the spread of the Covid-19 pandemic. The forced social distancing has had a negative impact on relationships, on self-esteem levels, highlighting a regression of postures all oriented towards implusive attitudes and to the increase in body weight (Montesano, Mazzeo, 2019).

For weight gain (Mazzeo, 2016), the return to a weight consistent with the bioanthropometric parameters, a progressive reduction in caloric intake, supported by healthy physical activity, and the return to a correct lifestyle is recommended.

For postural incidents the issue gets more complicated. Posture (Pirola, 2005), in fact, is the position taken by the various parts of the body with respect to each other (egocentric coordinate system) and with respect to the surrounding environment (exocentric coordinate system), not to mention the incidence of the gravitational field (geocentric coordinate system), so the imbalances are not only of the locomotor system but involve other aspects of the personality.

Posture (Montesano, Mazzeo, 2018) reflects the way of being in a situation of stability of the human body, be it in a static and / or dynamic position, determined by the adaptation of the various structures of the body (CNS, vertebral column, limbs and their interconnections with the outside world) and undergoes continuous adjustments, elaborated by the body analyzers, induced by information from different types of skin sensory, proprioceptive, visual, vestibular and auditory receptors. Correct and functional posture is characterized by the absence of asymmetric and abnormal muscle tensions, and by the correct relationships between the various body segments; a wrong posture, however, can trigger compensation mechanisms in the body altering the physiological structure of the body. If the alteration is correctable and concerns the bone aspect, that of joint mobility, the tendon and muscle aspect, we then refer to the paramorphisms. Instead, when the alterations of the skeleton have become chronic and cannot be modified with kinesitherapy, we speak of dysmorphisms.

In the absence of full-blown pathologies, paramorphisms are often attributable to prolonged staying on the benches, the use of backpacks and satchels with excessive weight. In the case of the lockdown, the total or partial absence of movement, the difficulty in organizing movement games, the extended time spent in front of the television and / or video games have led to the use of incorrect compensation postures (Vaz et al., 2002).

Conclusion

The effects of the Covid-19 pandemic are now beginning to emerge, but its real consequences are still unknown. Children/adolescents have lost important social reference points, such as school, friends, grandparents, and teachers. Albeit with caution, and under the guidance of adults, we are trying to return to the so-called normalcy by articulating the daily rhythms just like in the pre-lockdown periods. The reorganization of everyday life must necessarily be done through a new approach by providing clear information, appropriate to the age and development level of each child/teenager. The initial holiday atmosphere was progressively replaced by the worry, and in some cases by the anguish, of not being able to go back to school, of not being able to see school friends and sportsmen again, of not being able to see relatives, and in particular grandparents, and to be confined, too often, in a single domestic environment. Only in part, the activation of the Distance Learning and the diffusion of video-calls and other IT / telematic tools, have managed to make up for the radical change in habits that cannot be separated from the face-to-face learning processes based on interactions, on sharing experiences and emotions. The behavior of the blind person, although similar to that of the other children / adolescents, has resulted in regressions of autonomies already achieved (such as difficulty sleeping alone, requesting greater attention or manifestations of nocturnal enuresis), the appearance of fears, sadness and crying, and behavioral outbursts of anger and aggression. The increase in the demand for food, the intake of incorrect and impulsive postures are precise indicators of further acquired discomfort on which both family members and teachers should focus attention.

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