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## **11 Play in Children with Multiple Disabilities**

### **11.1 Introduction**

Play, a universal behaviour, documented in every culture, may have atypical characteristics in the child with multiple disabilities. The lack of access to sensorial inputs and the additional motor, cognitive, and communicative impairments observable in these children can cause a delay in all areas of development and may also lead to play behaviours that are not as rich as those of their peers.

Children with multiple impairments have enormous problems not only in receiving the multitude of stimulations coming from the environment, but also in properly decoding them. As a result, they experience a kind of 'chaotic misinformation' that may produce a sense of danger (Frohlich, 2007), and that massively interferes with the development of play skills.

Yet, in these cases, play has an even more important role with respect to a child with typical development (Brodin, 1999): through play, children can not only demonstrate their skills, but also acquire new ones in many areas of development.

Of particular importance is the relationship between the development of play skills and the development of communicative skills (Brodin, 1991; Pizzo & Bruce, 2010), an aspect that highlights the importance of play as a factor that gives the child with multiple disabilities the opportunity of relating with his or her environment.

It is for this reason that caring for a child with multiple disabilities must include activities that affect play; activities that aim not only at bringing out and strengthening the child's skills, but that are also capable of influencing the contexts in which the child interacts.

### **11.2 Play and Multiple Disabilities: the Literature**

Most of the research on play in children with multiple disabilities focuses on the use of play as a tool for evaluating children's skills and as a strategy suitable for achieving educational or therapeutic objectives. For what concerns the use of play for assessment and diagnostic purposes, the quality of play is reported by the literature as a parameter capable of providing information about the degree of overall development of the child with multiple disabilities (Finn et al., 1988; Mar, 1996) or about specific aspects, such as the development of object permanence (Bruce, 2012) and language (Pizzo & Bruce, 2010).

While no tools for evaluating the play skills of this population have been specially validated or developed, some assessment tools designed for children with multiple disabilities do have items that refer to ludic behaviours and are used to observe

the various components of the child's development. This is the case involving the Callier-Azusa scale (Stillman, 1978), a tool to evaluate the development of the deaf-blind child and with multiple disabilities that includes, in the subscales that refer to the degree of perceptive, motor and social development, numerous behavioural items that describe play activities involving practice play (e.g., grabbing and shaking objects, throwing, rolling, bouncing, and catching a ball), construction play (e.g., stacking blocks, handling Plasticine, cutting, colouring), symbolic play (e.g., presence of pretend play), and play with rules. The INSITE developmental checklist for multihandicapped sensory-impaired infants and young children (Morgan et al., 1999), used with children up to six years of age, includes numerous items that refer to observation of play activities.

The literature relative to the use of play as a tool for achieving educational or rehabilitative objectives, in particular in early interventions aimed at infants and young children, refers to the research in which the ludic activity is utilised to improve perception skills and to increase residual sensorial functions, movement (Lieberman & Tolla, 2000), communication (Michael, 1990), socialisation with peers (Hanline & Correa-Torres, 2012), and cognitive development (Fleer, 2014).

A major line of research investigates the role of play in rehabilitative-behavioural activities aimed at reducing maladaptive behaviours (self-injury, aggressiveness, self-stimulation). According to the so-called communication paradigm, these behaviours are nonverbal forms of communication aimed at obtaining gratifying environmental responses (Emerson, 2001) and can be replaced with more appropriate and functionally equivalent conduct, such as simple activities involving manipulation of objects or toys (Lancioni & O' Reilly, 2010). As a result, this allows the child to reach the same objectives sought with inappropriate behaviour while expanding his or her behavioural repertoire at the same time.

In recent years, above all, in the occupational therapy environments (Pharam & Fazio, 2008) and also thanks to the research and intervention initiatives developed by specialised centres for children with multiple disabilities and their families, approaches that encourage the development of the ludic factor, considered as an objective in itself and capable of positively affecting all aspects of the child's development and quality of life, have been rather successful.

### **11.3 Impairments in Functions Linked with Play and Ludic Activities**

Children with multiple disabilities have congenital or acquired impairments in one or both sensorial channels, that can be associated to a severe development and intellectual delay, motor deficits, severe behavioural disturbances, and other dysfunctions linked to additional organic pathologies that are neurological or of other origins.

Deaf-blindness,<sup>1</sup> meaning the combination, with different degrees, of sight and hearing impairments not associated with other disabilities, can be considered a condition in and of itself. In these cases, generalised problems arise due to sensorial distortions that make interaction with the environment more difficult. Such difficulties, however, are not as severe compared with those encountered by children who have additional motor or cognitive impairments. In the presence of multiple disabilities, it always becomes necessary to develop educational and rehabilitative interventions that are specific from a methodological and instrument perspective. In some cases, some developmental milestones considered essential for the general development and for the emergence of play abilities were not achieved: these may include joint attention (Nunez, 2014), turn taking, or understanding of cause–effect relationships (Finn et al., 1988).

Children with multiple disabilities may exhibit unusual responses when presented with objects or activities, take a lot of time to process stimuli, or on the contrary, exhibit excessive, intense, and at times, even violent activities with forms of self- or other-directed aggressiveness.

Spontaneous ludic behaviours often involve maladaptive responses: these children have very low motor responsiveness levels in the presence of gratifying stimuli, stereotypical behaviours apparently independent from adaptive purposes, and the tendency to use the object for self-stimulation (Coppa et al. 2005; Nisi & Ceccarani, 1993).

Social skills may be severely compromised and require specific action that guides the child to overcome his or her isolation. In more serious cases, it becomes necessary to start from the development of awareness of the presence of others to arrive gradually, in situations with a high level of structuring, at establishing positive interactions.

In general, for cases involving multiple disabilities, there are not only low levels of initiative and exploration, but also less involvement in symbolic and cooperative play.

## 11.4 The Role of the Environment for Participating in Play Activities

Due to the previously described factors, participation by children with multiple disabilities in play activities typical for their age may be very limited. This reduced degree of participation is not attributable, however, only to personal impairments,

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<sup>1</sup> According to the Declaration of the European Parliament on the Rights of Deaf-Blind People (2004), “deaf-blindness is a distinct disability that is a combination of both sight and hearing impairments, which results in difficulties having access to information, communication and mobility”. <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P5-TA-2004-0277+0+DOC+XML+V0//EN&language=SL>

but also to the characteristics of the living environments. Parents of children with multiple disabilities often feel they are incapable of playing with their children (Brodin, 1999). Early interactions in the mother-child dyads are particularly critical. In their research from 2007, Coppa and Orena observed that the mothers of children with multiple disabilities tend to fill all the empty spaces of the ludic interaction with hyper-stimulatory behaviours. The same authors also point out how the exchanges are characterised by communicative expressions of the mother, especially verbal ones. In addition, the mothers find it difficult to get in synch with their children and tend not to leave space to process the stimulus, demonstrating a tendency to normalise the interaction.

The characteristics of the play spaces may also represent a barrier. Factors such as lack of access to play areas and playgrounds and the presence of potentially disturbing factors (such as noise, insufficient lighting) can also make a difference in terms of opportunities to participate in play activities. Additional participation problems may be due to the unavailability of play materials that are suitable, adapted, or specifically designed for play and leisure time of infants and young children with multiple disabilities.

Play participation opportunities are also strictly correlated to the degree of inclusion of the child with multiple disabilities in school and in his or her community, to the possibility of playing with peers with or without disabilities, and to the presence of support from services that utilise professionals with specific training for this complex type of disability. It is these services that play a critical role in providing information and advice to parents and in guiding them, through a working alliance, to get in synch with their children in various pleasurable play activities.

## **11.5 Facilitating Play in Children with Multiple Disabilities**

Children with multiple disabilities, under proper conditions, can utilise the richness of the ludic experience, and with it, reach significant development objectives, provided that there are facilitating contexts: the most important factors are the relationship with the adult and the type of toys and structure of the overall physical context (Brodin, 1991). Another crucial factor is selecting the play materials (Brodin, 1999). Indeed, such a selection must be based on specific observations of the child and correspond to his or her specific perceptive, cognitive, motor, and communicative characteristics, as well as his or her preferences. There are numerous types of materials starting with simple tactile exploration games (such as containers filled with different materials: water, sand, balls, etc.). The child, using enjoyable and comfortable procedures, must be able to safely perceive, understand, and manipulate the materials and with minimal help (Canalini et al., 2005). If necessary, specific assistive technologies can also be used, such as switches that allow children with motor or sensory impairments to activate a toy through alternative methods.

In selecting toys and playware, it is important to consider the degree of accessibility and the presence of enhanced sensory characteristics, such as acoustic, visual, tactile, or gustatory feedback (food can also be an excellent play material); it is also important to encourage the child to choose and explore the proposed material (Coppa et al., 2005).

With children who exhibit behavioural stereotypes or who use specific objects for which there would seem to be a strong stereotyped attraction, it could be useful to propose similar materials within the context of activities that may develop into functional learning. If, for example, the child spends a lot of time on self-stimulating activities, that is, passing the hands in front of the eyes, play activities should contain strong visual elements, such as lights that turn on and off, software with cause–effect activities with dazzling visual feedback, and so on.

Observation, a key element of the intervention involving play skills, must be carried out possibly within the daily living contexts and with the help of professionals who can correctly interpret the child's responses when presented with the proposed materials. In particular, satisfaction with the proposed play activities can be evaluated through systematic measurement of positive reactions, that is, of 'happiness indices' (Dillon & Carr, 2007).

The 'indices of happiness' are used to evaluate the level of pleasure and wellness in persons without language skills by measuring easy-to-observe behaviours (e.g., laughing, smiling, clapping hands) correlated with inner emotional states. Some research has shown how these manifestations can be actively increased by modifying the environment and that their frequency increases, in particular during play activities. It is important to consider, when observing such indicators, that each child can express his or her wellness in a subjective manner and that the responses may occur much later than those exhibited by children with typical development.

The physical and perceptive characteristics of spaces and their organisation also play an important role: in addition to being accessible, spaces must also be capable of stimulating the child and providing a suitable range of possible activities (Brodin & Lindstrand, 2006).

To increase the child's independent exploration, play environments should be designed and organised so that their function is immediately recognisable: it is possible, for example, to create paths and dividing lines of the play areas using materials with contrasting colours and different types of roughness, or by using elements with olfactory clues, selecting and arranging the furniture to reduce sensory and cognitive obstacles to a minimum (Canalini et al., 2005).

For infants, small ludic environments (a play corner) can be created in which materials provide auditory, visual, tactile, and olfactory stimuli and where the child, according to a non-directive approach, can move freely and enjoy the proposed experience.

When setting up the activities in the play corner, it is important to carefully select the stimuli (chosen based on the observation of the child's preferences) and to create a

rigorous path for learning the prerequisites necessary for interacting with the various elements that 'enrich' the environment.

Constant monitoring, always based on observation, will make it possible to measure the attention and pleasure maintenance level of the play corner stimuli.

Because adults play a fundamental role, they can motivate, provide models, as well as help and support ludic activities.

Of particular importance, especially in younger children, is the physical vicinity of the mother (Brodin, 1991), a figure that can promote early experiences of fundamental importance for the development of play skills. The first thing that the child plays with is his or her body, but to do this, it is necessary to be familiar with it and to be capable of locating each part.

The child with multiple disabilities does not easily become aware of what is around him or her therefore, a guide, even physical, is needed to encourage him or her to explore and experiment. The caregiver can facilitate the child to experience his or her body, helping him or her to touch own parts, stimulating and proposing play actions (ball pit play, rocking games) or relaxing activities (e.g., playing in water).

Finally, to overcome the problems that many parents have when playing with their children, it is important to provide support that facilitates their ability to observe and to enter in contact with their children, helping them to propose stimulating activities and to interact in the most appropriate manner, without replacing them.

When developing the rehabilitation project, the various professionals must maintain a constant channel of communication with the child's reference figures. Caring for the child with multiple disabilities must include care for the entire family and the use of an 'ecological' approach that will affect all contexts of the child's everyday life.

## 11.6 Conclusion

Even children with multiple disabilities can play, making independent choices, enjoying what they do and not expecting any reward, except the pleasure of playing itself. However, in many cases, free and self-determined play must be considered not as a starting point, but as an objective to achieve, creating even highly structured activities that accompany the child as he or she learns increasingly complex play skills, and adopting measures that will have a positive effect on the characteristics of the environment.

Given the heterogeneity of the motor, linguistic, intellectual, and sensorial characteristics of children with multiple disabilities, the intervention must be highly individualised and be based on specific observations of individual behaviour in family contexts and at different times (Gleason, 2008). Similarly, environmental changes must be personalised while also taking into account a child's progress and development.

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