

International Encyclopedia of Rehabilitation

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This publication of the Center for International Rehabilitation Research Information and Exchange is supported by funds received from the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education under grant number H133A050008. The opinions contained in this publication are those of the authors and do not necessarily reflect those of CIRRIE or the Department of Education.

Rehabilitation for Children – How is it Different from Rehabilitation for Adults?

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Introduction

According to the World Health Organization (WHO), more than 650 millions of individuals live with disabling conditions worldwide (Organisation mondiale de la santé, 2010), out of which 200 million are children. Children with disabilities can develop and achieve their full potential with assistance from the rehabilitation services. Rehabilitation for children or pediatric rehabilitation includes all the services delivered to minors, from infants to teenagers. Rehabilitation for children refers to all the services required to foster social participation of the children, and not solely to specialized interventions. For instance, according to the conceptual framework of the International Classification of Functioning, Disability and Health (ICF), the goal of pediatric rehabilitation interventions is to alleviate the effects of impaired body structures and systems; foster the development of children's capacities and their participation to various activities; as well as reinforce environmental facilitators (e.g. education to families and other caregivers and adaptation of the physical environment) (Organización Mundial de la Salud, 2001). Conceptual frameworks as well as approaches used in rehabilitation for children are very similar to those used in rehabilitation for adults (e.g. contextualized, collaborative/partnership and ecosystem approaches). Similarly, for both groups, services need to be accessible, holistic, interdisciplinary, organized and integrated.

As several rehabilitation approaches apply both to children and adults, there is considerable scope for therapists to treat children as small adults. In this matter, some authors consider that pediatric rehabilitation designates a medical speciality (Helders et al., 2003). For others, these disparities are not significant enough to make a distinction between pediatric and general rehabilitation (Johnson, 2004). Both these opinions are found in clinical settings, where some therapists and managers seem to believe that pediatric rehabilitation is similar or not to rehabilitation for adults. Although existing differences may seem minimal at first, they are essential and have tremendous clinical and administrative implications (e.g. training and organization of rehabilitation services). The intent of

this article is to share ideas and inspire a reflection on the peculiarities of pediatric rehabilitation. The reflection of the authors is based on a review of scientific evidence, discussions with peers and their personal clinical experience with persons with impairments. The article also takes into consideration the main disparities between children and adults: epidemiology of the causes, impairments and disabilities in children; their dependency to adults; as well as the various steps of their development (Perrin, 2002; *Steering Committee on Quality Improvement and Management and Committee on Practice and Ambulatory Medicine* [SCQIMCPAM], 2008).

A diversity of clients in need of care during their early life and for which prognosis is often uncertain

Children with disabilities require rehabilitation services form a diverse, heterogeneous group of professionals. For instance, children in need of rehabilitation may have developmental delays, various syndromes, and aphasia or motor impairments due to cerebral palsy. The etiology of some diagnoses may be known (e.g. Down's syndrome), whereas the etiology and the risk factors for some other conditions have not been identified (e.g. motor impairments due to cerebral palsy). The primary causes and diseases giving rise to the need for rehabilitation are different for children and adults. In children, the causes of impairments and diseases are most frequently congenital, whereas they are mainly acquired in adults (e.g. strokes, traumatic brain injuries). As for prognosis, the course and functional consequences of a disease or injury in children depend upon several factors, which are often difficult to predict (Campbell, Vander Linden, and Palisano, 2006; Perrin, 2002). The prevalence rate of the major causes and diseases affecting children is also lower than the rate observed in adults, which can result in limitations of knowledge and expertise development in areas of specialized interventions (Perrin, 2002; SCQIMCPAM, 2008).

The clinical picture of children and their needs in terms of rehabilitation services is diverse. In addition, new health challenges have emerged. For instance, the number of infants surviving with congenital and neonatal health conditions is increasing due to improvement in perinatal medical care (e.g. motor impairments due to cerebral palsy). Other health conditions are acquired, and related to chronic diseases in children (e.g. asthma, allergies, and obesity). Moreover, the life expectancy associated with various fatal diseases has greatly increased due to advances in medicine and pharmacology (e.g. cystic fibrosis, muscular dystrophy) (Gibson et al., 2009; Perrin, 2002). Consequently, the number of children in need of rehabilitation services may increase in the upcoming years, and the provision of the required services is likely to extend for a longer term. In addition, technologies and new types of interventions might increase intervention opportunities for children (e.g. use of botulinum toxin to reduce spasticity). The development of newer technology contributes to increasing pressure on rehabilitation services.

The planning of rehabilitation services for children is thus complicated and set within a long-term perspective. Services are often delivered during the first years of a child's life. The family of the child living with disabling conditions form early bonds with the rehabilitation network. The news of a diagnosis, which is usually preceded by a period of uncertainty, can generate a lot of anxiety for families. This is often a traumatic event killing the dreams of parents and challenging the family dynamics (Tétreault, Beaupré, Kalubi and Michallet, 2002). In response to the numerous gaps in expectations among parents regarding the diagnosis and information, several support programs are made available for use by parents, which increase the satisfaction level of families and contribute to reduce their stress (Rahi, Manaras, Tuomainen and Hundt, 2004).

Besides the diagnoses, the uncertainty of the prognosis may also contribute to the increased level of stress in parents. However, even when the prognosis is known, parents and therapists often wish to give children the opportunity to achieve their full potential. This is why, even though there is scientific evidence predicting the motor function level of children with cerebral palsy (Rosenbaum et al., 2002); therapists often work on gait training despite the negative prognostic factors for functional long-term outcome, frequently in response to the parents wishing to “try anyway”. However, there is a growing concern on this matter, and therapists wonder if it would be more efficient to introduce wheelchair mobility in the early phases of the rehabilitation process (Gibson et al., 2009). On the contrary, some adults living with disabling conditions who succeeded in resuming gait after great efforts in therapies during childhood indicate that “it was worth the try” (Bottos, Feliciangeli, Sciuto, Gericke and Vianello, 2001). With the emphasis on evidence-based and budget-cut practices, these efforts towards trial and errors might increasingly be questioned. However, in these reflections, it is important to not only take the sole prognosis of gait into consideration, but also the benefits of performing activities in standing position (e.g. bone mass growth and increased self-esteem). Therefore, whenever intervention guidelines are used in rehabilitation institutions, it is important to maintain a certain level of flexibility in service delivery in order to optimize the outcomes and customized it to the specific needs of the clients. Some health conditions are chronic, and therefore, rehabilitation services may be required throughout a child’s life. It seems that the life expectancy for a person with disabilities is generally higher when the onset occurs during childhood as compared to adulthood. Childcare should therefore aim for optimal functioning and social participation in the short term, but also set within a long-term perspective of prevention as these domains are determining factors of the child’s future health status. The complexity and duration of long-term care also leaves tremendous financial burden on the society. This raises various questions related to the organization of rehabilitation service delivery for children. For instance, when children are diagnosed or identified as having developmental delays during the first five years of life, intensive monitoring is often suggested to families. Early intervention and enhanced services when children are very young are based on brain plasticity theories. However, it should be highlighted that in a context of budgetary restraint and limited resources, some authors question the relative importance of dedicating resources during the first years of a child’s life. In doing so, the lack of resources to support children in the future various steps of his/her development are taken into account (Gibson et al., 2009).

Developing clients experiencing many transitions and rapidly evolving life habits

Development is an ongoing phenomenon for human beings of all ages, as we constantly experience changes. However, the intensity of this development is what distinguishes children from adults; acquiring new knowledge, physiological changes, and the transitions experienced by children in many life areas are rapid, frequent and significant. For instance, adults will experience occupational changes and a transition to retirement process, but their environment and social network seem generally more stable compared to children, who will experience class changes in school every year and frequently integrate many new environments (e.g. new leisure activities, new school). In addition, everything seems new to children in rehabilitation; they are learners like all other children, but they also have to face additional challenges in order to learn new skills. Early interventions services prevent children with disabilities from developing inappropriate compensatory strategies while performing activities. However, waiting lists often compromise

access to services, and as a result, are most likely to affect the well-being of children (Freeman, 2008; Grilli et al., 2007).

Various developmental theories have had repercussions that are more significant on the rehabilitation of children than on adults. In this matter, the first developmental theories focused on the chronological order of learning milestones and on the central nervous system's maturation, while contemporary theories highlight the interrelation between children's neuro sensory, motor and cognitive systems, as well as the importance of contextual and environmental factors (Campbell et al., 2006; Kramer and Hinojosa, 2010). Brain plasticity theories and early interventions are still essential, for rehabilitation care of both children and adults; however, they are also enriched by approaches increasing the emphasis on human development and social participation.

As social participation is one of the major goals of rehabilitation (King et al., 2002) involving the performance of life habits depending on age (Fougeyrollas, Cloutier, Bergeron, Côté and St-Michel, 1998), rehabilitation goals should vary according to the developmental phases experienced by children. Besides considering chronological age, people involved in rehabilitation should consider the developmental age of children in each of their life areas (e.g. motor, cognitive and social) in order to identify the most appropriate goals and methods of intervention (Kramer and Hinojosa, 2010). Developmental age may vary significantly from one life area to another in a same child. For instance, a 5-year old child may present appropriate cognitive functions for his chronological age, but the motor abilities of a one-year-old child.

Throughout their development, children experience many transition periods (e.g. entry to day care or primary school, transition from primary to secondary school). Rehabilitation services should be organized to provide support to children and their families during these moments of transition (King et al., 2002). Therefore, the partners collaborating with the rehabilitation field may vary according to the age of the child. Many studies have been devoted to the collaboration of adult rehabilitation partners and services for adolescents (Evans, McDougall and Baldwin, 2006; Gall, Kingsnorth and Healy, 2006; Stewart et al., 2010; Stewart, Stavness, King, Antle and Law, 2006). For these authors, preparing adolescents to fulfill new roles and develop empowerment to achieve greater independence is critical (Stewart et al., 2010; Tétreault, Carrière and Parent, 2007). Actually, interventions usually aim to achieve the optimal development in children in order for them to become as functional as possible during adulthood (Helders et al., 2003). Parents should also contribute to the rehabilitation process in order to facilitate their children's independence.

Clients depending on others and multiple-partner collaboration

Children in need of rehabilitation generally seem more dependent on others than adults are. Children depend on their parents in various ways. Legally, children are dependent on their parents (or on a committee) until they are a major or can be regarded as an adult—in some countries like Canada, the age of 14 years is considered as an adult for certain aspects related to consent for care. This legal dependence has various impacts on the rehabilitation field and raises ethical issues: Who can consent to care? Who makes decisions regarding rehabilitation goals? (Deston, 1996). All of this raises the following question: who is the actual client, the child or the family? As children can have different views from their parents, they should also be consulted as far as

possible. The emphasis on parental priorities should be gradually reduced as children get older in order to enable them to contribute more actively in their rehabilitation process.

At the physical level, children are also dependent on their families. Their functions in various life areas (e.g. motor and social) are associated with the family dynamics within their environment (King, Russell, Rosenbaum, Law and Jaffer, 2004; Rosenbaum, King, Law, King and Evans, 1998). For instance, families experiencing various adjustment difficulties might provide less stimulation for children to develop. People in the children's surroundings support them throughout the various steps of their life, and that is why they need to be properly equipped and supported. Parents, most frequently the mother, are natural caregivers with significant support requirements (Guberman, 2010). Adult rehabilitation also needs the involvement of natural caregivers (often spouses) and their needs are also taken into consideration, and this results in increased collaboration with others within the children's surroundings.

The family-centered approach, which does not only consider the children needs, but also parental and sibling needs (King, Rosenbaum, and King, 1996; Rosenbaum, King, Law, King and Evans, 1998), seems more used in pediatrics than the client-centered approach. However, the latter should also implicitly include members of the family. On the contrary, they are clearly recognized as clients in the family-centered approach, probably due to the great dependence of children living with disabling conditions, comparatively to adults. The family-centered approach fosters positive interactions between healthcare professionals and families. This approach recognizes that rehabilitation services should not only meet children needs, but also the needs of others in their surroundings (King et al., 2002). Contrary to adults who are fully responsible of their rehabilitation process, children are much more dependent on their family, notably regarding their functional independence.

Conclusion - Clinical and administrative implications

Rehabilitation for children shares many similarities with adult rehabilitation. The epidemiology of the causes, impairments and disabilities is different in children and adults. In fact, children experience an "intensive" development and are dependent on adults at various levels. Furthermore, some assessment and intervention methods used in children are different from those used in adults. Intervention approaches based on play are therefore taking much part of the rehabilitation process in children. They learn and develop through playing (Ferland, 2003). In adults, motivation and involvement in the rehabilitation process are mostly related to the importance of each activity. In children, pleasure is of first importance. In other words, it is easier to ask adults to accomplish an activity by explaining the goal and the way to achieve it, whereas for children, setting scenes and creating situations in which they will perform an activity is essential.

It should be noted that many assessment tools in pediatric rehabilitation are based on observation (e.g. the Gross motor function measure, Rosenbaum et al., 2002), while self-assessment questionnaires are probably easier to use with adults. In addition, it seems that the participation rate of families to rehabilitation assessments and interventions is higher for children than adults. Families can provide useful information, contribute to the treatment or ensure that recommendations are followed daily. Over the years, children become increasingly involved in their rehabilitation process. As their needs evolve and change rapidly, reassessments need to be done more frequently than in adults.

Clinical and administrative implications emerging from discrepancies between rehabilitation for children and adults should not be underestimated. For instance, people training to contribute in the rehabilitation field must be aware of the techniques and approaches that will help them to provide more efficient assessments and interventions for children, in addition to keeping an eye out for rapid changes in their life habits and environments. Similarly, people who are used to work with adult clients should be able to adjust their approaches for children as these clients present some peculiarities. As for people working with children, they should be aware of the principles underlying the peculiarities of rehabilitation for children. This enables them to specify their approaches and to keep their skills up to date according to changes at the knowledge level. As for administrators, they must consider the particular features of children prior to implementing efficient pediatric rehabilitation services.

Early interventions are essential, as well as the provision of support to children and their family through the various life stages. At the level of service organization, the Life Needs Model is an interesting model for planning the various life stages and meeting the overall needs at the level of information, education and capacity building, both in children and family members, as well as in their communities (King et al., 2002). Based on the established goals, various types of intervention (e.g., group, individual, evaluation-consultation) are designed to meet these needs (Palisano and Murr, 2009). A set of rules and procedures should be implemented to organize all these services, but also to ensure the proper operation of the rehabilitation program. These rules should be modified to match the peculiar features of rehabilitation in children in order to take their dependence on adults into consideration (e.g., participation of the child to therapies depends upon his or her family, particularly regarding regular attendance to appointments and compliance with recommendations). Finally, clinical and administrative organization of services should consider both children and family members' particular needs and features.

Acknowledgements

The authors would like to thank their colleagues of the *Centre de réadaptation Estrie (CRE)* in Sherbrooke, the *Centre de réadaptation l'Interval* in Shawinigan, as well as the *Fundación amigos de los niños para su integración en la comunidad* (Fandic) in Bucaramanga, Colombia. Their feedback contributed to enrich the authors' reflection in the writing of this article.

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