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Original Research Article

Functional status assessment in children with moderate and severe intellectual disability using pediatric version of the Functional Assessment of Patients



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ABSTRACT

Introduction: Evaluation of a patient's functional condition is the main factor determining the choice of appropriate therapeutic actions.

Aim: The objective of this study was to determine the diagnostic value of the Functional Assessment of Patients (OFC-FAP; from Polish Ocena Funkcjonalna Chorych) pediatric version scale in the process of rehabilitative treatment as a method of assessing the level of losing, obtaining or re-obtaining functionality in everyday lives of children with cerebral palsy (CP) and moderate or severe intellectual disability (ID).

Material and methods: Thirty-three children with CP and moderate or severe ID were studied. The ID level evaluation was performed with the use of revised version of Wechsler Intelligence Scale for Children. Upon starting the study patients were at the age from 6 to 18 years. The examination with the use of the OFC-FAP pediatric version scale was conducted twice, 12 months apart. Between the studies, children were subjected to rehabilitative enhancement. The patients were studied in six dimensions (in total 195 functional tasks were studied).

Results and discussion: The level of functional capability observed both in the first and the second study was higher in children with moderate ID than in those with severe ID.

Conclusions: The pediatric version of OFC-FAP observational method, based on using the functional status assessment sheet, is an individualized and sensitive form of collecting information on the functional status of children with CP and co-occurring ID at moderate and severe level.

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1. Introduction

The satisfactory function is one of the most important health indicators, along with improving the mental attitude and the state of well-being. It is defined as a set of features ensuring the ability of accustoming, that is adapting of particular organs and systems to serving bodily functions in the conditions of a given environment. It is defined by the correct morphological build of particular organs and the proper co-functioning of life-important systems during the processes of physiological reactions in organism.¹ According to the World Health Organization (WHO), it is important to consider the functional status of a person while assessing human health status. In the International Classification of Functioning, Disability and Health (ICF) published in 2001, WHO recognized the influence of illnesses on patient's functioning in the context of losing organ's functions and, therefore, functionality, which also relates to losing personal functionality and limiting the degree of social participation.² The influence of health status on a person's functionality can be assessed by measuring the results obtained while performing the tasks or functions connected to daily activities.³ Accurate establishment of a patient's functional status is the main factor determining the right therapeutic action. On the basis on the functional examination and determining the "functional factors of the highest potential for the function to return,"⁴ an interdisciplinary plan of treatment course should be established.³ The goals of conducting the functional assessment of patients are mostly: assessment of the effects of the used rehabilitative action, determining the results of medical interventions, long-term prognosis, assessment of patient's self-dependence, assessing the need of providing potential care, and reference for jurisprudence.

The third most common reason for long-lasting disability in children across the world is cerebral palsy (CP)⁵ perceived as a non-progressing injury to the central nervous system (CNS) leading to the occurrence of age-dependent disorders regarding movement, posture and other anomalies of the early-developed brain.⁶ Połatyńska and Kępczyński⁵ claim that the main CP diagnosis criteria of symptoms indicating lesions to the CNS include such co-occurring symptoms as intellectual disability (ID).

ID is not a nosological unit but an inhomogeneous set of disorders caused by various causal factors of complex pathogenic mechanism, with inhomogeneous morphological and clinical image and course. ID is considered not a feature but a status that limits the functioning of an entity.⁷

To measure the clinical phenomena occurring in patients, clinimetrics introduced by Feinstein (1983)⁸ and by Asplund (1987)⁹ is used – it is a domain of science dealing with the construction of research tools meant for the quantitative assessment and analysis of clinical phenomena.

One of the interesting and modern scales, which currently operate is the Functional Assessment of Patients (OFC-FAP; from Polish Ocena Funkcjonalna Chorych) method.³ It is an individual scale of observation, characterized by high sensitivity measurements.

2. Aim

The goal of the study was to determine the diagnostic value of pediatric version of OFC-FAP method in the process of rehabilitative treatment. The question arises is this method precise enough to determine the level of losing, obtaining or re-obtaining functions related to everyday activities in children with CP and moderate and severe ID.

3. Material and methods

The study material consisted of children with CP and co-occurring ID at moderate and severe level, attending the Complex of Special Schools No. 103 in Poznań. Thirty-three children were qualified to the study (19 girls and 14 boys). At the time of starting the study patients were at the age from 6 to 18 years (average age: 13.08). The patients were divided into two groups depending on the level of their ID. First group consisted of 15 children with moderate ID, second one of 18 children with severe ID. The ID level evaluation was performed with the use of revised edition of Wechsler Intelligence Scale for Children (WISC-R).¹⁰

Pediatric version of OFC-FAP scale was designed on the basis of already functioning OFC-FAP scale for adults³ to conduct the observations presented herein. The study with the use of the OFC-FAP pediatric version scale was conducted twice, 12 months apart. Both studies were based on the same basic questionnaire. Between the studies children were subjected to rehabilitative treatment involving individual activity (the corrective gymnastics) for 2 h a week and group activity (the physical education) for 3 h a week.

The methodology of the study using the OFC-FAP pediatric version method consisted in observing patients by the therapist in different functional settings and filling in the study sheet, which contained six categories of the observed functions ("fitness", "movement", "dexterity", "eating", "dressing up", "washing/hygiene"). The number of all functional tasks amounted to 195.

The assessment was conducted on each self-contained performance of a particular function with no indefinite external aid, which could be of different range and nature every time. The given answer ("yes/no") allowed for obtaining the real image of the parameters of the assessed function.³ The "yes" answer granted the child 1 point, while the "no" answer granted 0 points.

The obtained results were entered into the OFC-FAP pediatric version system. It automatically conducted data analysis by calculating the current status and the change of the functional image over time (after another study) and presenting it in a graphic and mathematical manner. The graphic and mathematical analysis compared the chosen functional tasks, juxtaposing the scores with the assumed 100% performance rates. The program calculated the percentage value of positive answers in relation to all questions asked in the first and the second study alike. The difference between those values proved the improvement (when the score was positive), deterioration (when it was negative) or no change in the functional status of patients over time.

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