

Disability caused by ischemic stroke – a medico-social problem

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Abstract

Background: Stroke is an important health problem at a global level, being the third cause of mortality in the general hierarchy of pathologies (after cardio-vascular disease, neoplasm) and the first cause among neurological diseases. According to data from the National Statistical Office of the Republic of Moldova in 2012 11836 new cases of strokes were registered and 6125 persons passed away. The prevalence in 2012 was 33,3 for 10 000 people. In 2014, 853 persons were given disability levels after stroke. According to the American Stroke Association 87% of strokes are ischemic and the rest of hemorrhagic type. Stroke represents the main etiological factor of long term disability. Only 20% of people who have suffered from stroke will return to work, 40% have moderate deficiencies. The majority of secondary deficiencies are healed in a few months, but others can persist throughout life.

Conclusions: Even though the biggest progress in healing is achieved in early periods perspectives in recovery are over the course of months and even years (late period). Development of cooperation between medical and social services is necessary and has the aim of identification of common interest problems in the prophylaxis, treatment and adequate recuperation, the supreme objective being the reduction of the number of people with post-stroke disabilities and maintaining human potential. Improvement of the quality of medico-social services for people with a disability favors the achievement of objectives for their socio-professional inclusion.

Key words: stroke, disability, deficiency, socio-professional inclusion.

Introduction

Stroke is an acute neurological dysfunction of vascular origin with symptoms and signs implying cortical areas. It is an important health problem at a global level, being the third cause of mortality in the general hierarchy after cardio-vascular and neoplasm and the first cause among neurological diseases. According to the American Association of Stroke, every 45 seconds someone has a stroke, every 3 minutes someone dies of a stroke, 87% of strokes are ischemic and the rest hemorrhagic [1]. According to the American Journal Circulation of the Association of Cardiologists from 2013, the following data are presented: approximately 795.000 people have a stroke annually among which 610 000 cases are manifested for the first time, and 185 000 are repeated [2]. In the Republic of Moldova (RM) the incidence of stroke and mortality rate is a leader among European countries. According to data from the National Statistical Office of the RM in 2012 11836 new cases of stroke were registered.

Stroke is the main etiologic factor of long-term disability. About 75% of stroke victims have residual effects from stroke, and for some, these effects make it impossible to work. Only 20% of people who have suffered from stroke will return to work. A third of stroke victims are socially active. According to the World Report for disability 40% of those who have suffered from stroke have moderate deficiencies and 15-30% – severe deficiencies [3]. Furthermore, stroke patients are at high risk for future vascular events, including recurrent stroke, putting them at a greater risk of death and further disability [4]. With growing number of stroke survivors, there is an urgent need to improve our understanding of the long-term recovery process after stroke and to identify the ways for developing efficacious therapeutic strategies to enhance poststroke outcomes [5]. Handicap is the disadvantage resulting from poor health that limits fulfillment of societal roles: disability limits their ability to perform tasks. Handicap is common after stroke even in

nondisabled patients, and reduction of handicap is a key aim of rehabilitation. Stroke may cause physical and cognitive impairments. Age, functional status and disease duration on admission, co-morbidities, and cognitive functions are known to be the predictors of functional outcome in stroke. Acute poststroke cognitive impairment is commonly seen. Cognitive impairment occurs in 35.2%-43.9% of the patients three months after stroke and may continue for a long time in approximately 1/3 of the patients. Cognitive impairment may decrease functional capacity, for it affects rehabilitation outcomes in stroke [6].

The brain is an organ with a great capacity for regeneration, but cannot regenerate wholly (ad integrum healing). The unaffected portions of the brain can successfully undertake the function of the destroyed cerebral tissue. Over time some previously lost functions can gradually restore their deficient cortical areas. Healing depends on the location and expansion of affected central tissue and also on the capacity of the functions of healthy tissues [7]. Also, the brain has a big capacity for adaptation and helps the body find new ways to carry out its normal activity. The first 36 months after stroke are the period of time in which the majority of disabilities are recovered, even so some problems are improved over years and depend on a series of factors (the expansion and place of central lesion, the patients age, the associated pathology, treatment) [8]. The period of recovery differs from person to person and is in the most cases a process that continues for the remainder of life. The capacity of recovery and disability occurrence after a stroke depends on many factors: affected brain areas (each area controls a certain function of the body), the affected central areas (dominant hemisphere), the surface and depth of the lesion, the general state of health and other diseases [9, 10, 11]. Evidence of the differences between the functional consequences of strokes in the left and right hemispheres is particularly interesting. The left hemisphere is more important for motor control, while the

right hemisphere is more important for spatial orientation [12]. Motor activities requiring planning and coordination are more dependent on the left hemisphere and are strongly affected in individuals with right side hemiparesis [13, 14]. Right hemisphere lesions are more likely to result in deficits in attention and contralateral perception and stabilization of the position in relation to lesion of the left side [14]. The right hemisphere integrates sensorimotor information which is critical for maintaining posture and maintaining sitting or standing positions [15]. In many cases despite recovery measures patients are left with deficiencies such as: paralysis of certain body parts, perception disorders, depression and other disorders of cognitive functions. This makes stroke a major health problem, because, of the high rate of mortality and sequelae with a devastating effect on the life quality of the patient and his family. The economic and social costs of post-stroke disability are significant, but difficult to quantify. They include direct and indirect costs. Direct costs fall into two categories: additional costs that people with disabilities and their families incur to achieve a reasonable standard of living, and disability benefits in cash and kind, paid for by governments and delivered through various public programmers. Indirect cost of diminished work capacity and high mortality among young people, also the economic loss are related to the long recovery period and socio-professional inclusion of these patients. Non-economic costs include social isolation and stress and are difficult to quantify [16].

The notion of social inclusion is different from that of integration. If social integration implies the acceptance of a person with disability in society (work place, public areas), social inclusion means the dumping of society, of value, community rules for accepting diversity (establishing the service for determining of disability and the work capacity in the RM 30.03.2007).

The problem of post-stroke disability is a priority in contemporary approach of organizing the health services in countries with advanced economies. Because ischemic stroke is the number one cause of long-term disabilities the

measures for prophylaxis and recovery have great importance. Rehabilitation is an active process of recovering completely or if that is not possible the achievement of an optimal social physical potential, followed by the integration in suitable environment. Recovery depends on the motivation of the patient, the ability to learn, family support, quality and intensity of treatment. The main goals of the program are: recognition the complications and their profilaxy, functional independence, improving quality of life, social and family reintegration. Also the education of families in which a member has suffered from stroke for support.

The notion of disability is interpreted in three distinct concepts: a person with disability or impairment, disability, handicap [16]. International Classification of Impairments, Disabilities and Handicap was developed and adopted as a document in 1980. Because the process of medical rehabilitation is guided by a bio-psycho-social approach of the disabled persons the International Classification of Functioning (ICF), Disabilities and Health was adopted, approved in 2001 (fig. 1). This conceptual framework is useful for individual of every rehabilitation program. The ICF was designed to classify not only limitations in functioning but also positive experiences for all body functions, activities, and participation in the environment. Examples of positive experiences include communicating, tending to personal hygiene, working, and studying. In summary, the ICF portrays health as a dynamic interaction between an individual's functioning and disability within a given context [16, 17].

Functioning is an umbrella term for body functions, body structures, activities and participation. It denotes the positive aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors).

Disability is an umbrella term for impairments, activity limitations and participation restrictions. It denotes the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors).

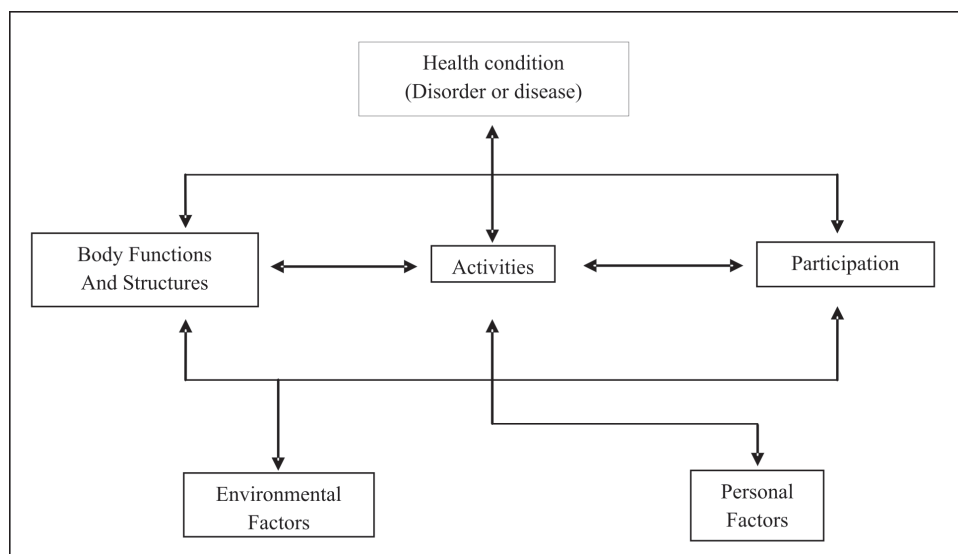


Fig. 1. The interaction between components of the International Classification of Functioning model.

Body functions - The physiological functions of body systems (including psychological functions).

Body structures - Anatomical parts of the body such as organs, limbs and their components.

Impairments - Problems in body function and structure such as significant deviation or loss.

Activity - The execution of a task or action by an individual.

Participation - Involvement in a life situation.

Activity limitations - Difficulties an individual may have in executing activities.

Participation restrictions - Problems an individual may experience in involvement in life situations.

Environmental factors - The physical, social and attitudinal environment in which people live and conduct their lives. These are either barriers to or facilitators of the person's functioning.

The Service for Determining of Disability and Work Capacity of the RM was subjected to radical changes in 2013 by the bases being established by the Government decision No 65 23.01.2013, according to which National Council of Determining Disability and Work Capacity was established. The term invalid was replaced by disabled [18].

The institution for determining disability and work capacity was approved. After the release of the 12/70 Order 28.01.2013 of the Ministry of Work and Social Protection of RM the medical criteria for determining structural and functional impairment is implemented. Also a big accent is made on the medio-social evaluation of the patient. The actual methodology of disability evaluation is oriented on rehabilitation and socio-professional inclusion of people. The notion of social inclusion is different from that of integration. If social integration assumes the acceptance of the person with a disability in society (work place, public place), social inclusion means the changes of society, attitudes, values, rules of community for acceptance of diversity.

Conclusions

Because ischemic stroke is the number one cause of long-term disability the measures for prophylaxis and recovery have a great importance.

It requires the development of cooperation between medical and social services which has the aim to identify common interest problems in the profilaxy, treatment and adequate

recuperation, the supreme objective being the reduction of the number of people with poststroke impairments and maintaining the human potential. The big number of people with stroke, the disability, socio-professional inadequacy, high mortality, considerable economic costs cause the actuality of the problem.

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