SOMATIC PROBLEMS IN GERIATRIC REHABILITATION

Jolanta Twardowska-Rajewska

Health Education Unit, Faculty of Educational Studies, Adam Mickiewicz University, Poznań, Poland

ABSTRACT

This study contains characteristics of senility as the last period in human ontogenesis and presents its types: physiological (successful, desirable) and pathological (non-successful, with multiple pathologies and disabilities). The author discusses limitations in geriatric rehabilitation in the context of Comprehensive Geriatric Evaluation, its specificity, needs, forms, advantages and problems.

Key words: successful senility, non – successful senility, disability, geriatric rehabilitation, specificity, advantages, problems

Introduction

The world population is getting older. The number of senior people oscillates around one fifth of all the inhabitants in Europe. Duration of human life has become longer thanks to progress in medicine. A doctor can ward off death, resulting from acute vascular incidents – cardiac, cerebral – and multi-organ injuries caused by road or sports-related accidents. Nevertheless, a doctor cannot restore a human organism to full health and well-being. The number of disabled, handicapped persons, people with chronic diseases and elderly people increases. They require a continuous treatment, assistance, care and generate substantial costs burdening state budgets. People aged 60-65+ constitute a considerable part of this population. As much as 50% of persons over 80 are characterized by disabilities acquired in the previous periods of their lives (Mossakowska et al 2012; Domagała 2014).

Does senility have to take, according to the common stereotype, an unfavourable course? Does it have to be accompanied by disability and dependence upon a multitude of specialist assistance-care activities? If rehabilitation improves considerably a person's quality of life, even at advanced age, improving at the same time the person's social functioning, minimizing costs, why is it used so scarcely and what are the reasons behind it, what are the barriers to the realization of holistic geriatric rehabilitation? This publication is an attempt at answering these questions, so difficult in the Polish reality.

The current definition of aging does not identify an old age with illness. Old age is characterized by a lesser adaptability and a lesser possibility to restore homeostasis, disturbed by natural permanent influence of stressors on the organism. Adaptability depends (up to approx. 30%) upon a human being's individual genetic equipment and environmental factors which include the natural environment (10%), and one's own lifestyle (50%) consisting of diet, physical activity, and the so-called mental hygiene. All the above-mentioned factors interact at the bio-molecular level, generating the quality of old age and longevity (Abrams et al 1999; Grodzicki et al 2006).

Two different portraits of old age can be distinguished: the oldest – old – „senile robust old people" (with problems „due to old age", resulting mainly from autonomic neuropathy) or the frail – elderly

– defined as „fragile old people with the syndrome of infirmity" (suffering from „old age diseases" – NFAD: non – fatal ageing-dependent diseases, i.e. those of postponed mortality) (Abrams et al 1999; Grodzicki et al 2006; Galus 2007).

Symptomatology and diagnostics in geriatrics are specific for this specialization, and thus so difficult and important. They are defined by such objective factors as absence of a sharp border between health and disease, stereotype thinking attributing all symptoms to irreversible changes accompanying old age, not to the so-called "curable" ailments. This generates a resignation approach – abandonment, neglect, which is favoured by an imperfect system of financing in geriatrics. In the sphere of medical care it is a classic example of discrimination due to old age (Grodzicki et al 2006; Galus 2007; Mossakowska et al 2012).

According to Bień, the definition of health in old age contains four components: absence of disease, maintaining the optimum function, presence of an appropriate system of support (family, health care, environment, social support) and – if the burden of disease does not cause a significant limitation – functioning of an elderly person (Galus 2007). According to Grochmal, the condition to achieve full well-being is a conscious, and therefore biologically and humanistically justified, activity (i.e. a purposeful conduct from the viewpoint of health, in line with the best ethical and moral principles from the humanistic viewpoint), whose aim is to improve a person's psychophysical activities (Grochmal 1995). Geriatric care should be a four-stage process, starting from diagnosis, i.e. a comprehensive geriatric evaluation (CGE – is a geriatric procedure underestimated in 70%, the National Health Fund calculated it at 153 PLN and 3 points). The CGE provides a basis for setting the goals of care (a senior's individual needs and possibilities to meet them), establishing a specific, individualized plan of action whose realization should be systematically monitored, so that it could be corrected to optimize the proceedings (Grodzicki et al 2006).

Geriatric care has to fall in line with the principles of common character and accessibility of care, its long-term duration, complexity of approach and high quality of services. The CGE consists of instruments – scales of diagnosing from different areas of a senior's functioning in order to determine his/her appropriate care needs:

- ADL (by Katz) – Activity of Daily Living – evaluates the simple everyday activities (skills),
- IADL (by Lawton) – Instrumental ADL – assesses the complex daily activities,
- MMSE (by Folsteins) – the scale of shortened assessment of cognitive functions, used to make a preliminary screening for the threat of dementia syndromes,
- GDS (by Yessavage) – a geriatric depression scale (modification of Hamilton's scale) for elderly people,
- MNA (by Touluse) – a shortened scale to assess nutritional status in the elderly (making it possible to detect PEU: "Protein Energy Undernutrition"),
- Tinetti Gait and Balance Test – assesses the ability to keep balance and walk (i.e. the risk of falls),
- Social scales – to examine living conditions of a senior in the social environment (Abrams et al 1999; Twardowska-Rajewska 2007; Wojszel 2009).

Specificity of rehabilitation in old age

Rehabilitation in old age assumes two forms: one – rehabilitation integrated with primary prevention, i.e. prophylaxis (preventing origination of infirmity) and secondary prevention (maintaining and improving current efficiency). The second form is provided by clinical geriatrics within the frameworks of tertiary prevention (restoration of fitness lost in result of acute incidents), concentrated on the so-called "axial problem" (e.g. condition after stroke, infarct, complicated operation, multi-organ injuries) (Grochmal 1995; Grodzicki et al 2006; Galus 2007; Żak 2011; Opara 2014).

Rehabilitation has to consist of multi-level activities (somatic, psycho-social aspects) which should be individualized and corresponding with (an elderly) person's hierarchy of needs (according to Maslov). Due to its multi-level dimension, rehabilitation assumes different forms, such as: physiotherapy (kinetic therapy, physical therapy, massage, manual therapy), occupational therapy (art therapy, music therapy, choreotherapy, bibliotherapy, nature therapy) and, finally, psychotherapy with psychological guidance. A significant form of complex rehabilitation is social and professional rehabilitation, with the aim of counteracting loneliness, exclusion, discrimination and abuse of disabled elderly people (Grochmal 1995; Twardowska-Rajewska 2007). There has recently appeared a new form of making people, also the older ones, more

active – the so- called coach of individual creativeness. This form enhances a senior's social inclusion, facilitates collaboration between generations, leads to the best quality of life throughout the period of old age and "promises" longlife. Despite numerous unquestionable advantages of rehabilitation, there exist numerous barriers to its implementation in the old age (Grochmal 1995; Grodzicki et al 2006; Galus 2007). These include, on the one hand, polypathology which is an individual limitation as regards forms and scope of rehabilitating activities. The most frequent problems include circulation inefficiency (ischemic cardiomyopathy, orthostatic hypotonia), respiratory failure (chronic obstructive pulmonary disease) and dysfunction of the motion organ due to orthopaedic and neurological reasons (advanced degenerative joint disease, serious osteoporosis, sarcopenia, Parkinson disease, post-stroke condition) (Galus 2007; Twardowska-Rajewska 2007; Wojszel 2009). On the other hand, there are also psycho-social and financial barriers. Disability and "oddness" of old age and stigmatize an individual, limiting and distorting his/her interpersonal relations. Inhabitants of our country only declare to be tolerant: in practice they adhere to "ageism" (crypto-ageism) (Twardowska-Rajewska 2005; Twardowska-Rajewska2013; Tokarz 2006; Szadkowska 2009; Krysiak 2011).

Thus, rehabilitation in an old age absolutely requires the interdisciplinary, holistic approach.

Due to the multi-dimensional character of age-related problems, rehabilitating activities should be conducted by a multi-disciplinary team consisting of specialists: specialist physicians, physiotherapists of various sub-specializations, nurses, social workers, psychologists, occupational therapists. Their work should be coordinated by a physician or rehabilitation specialist (Galus 2007; Twardowska-Rajewska 2007). Podology in cases of diabetic feet is the best example of above. Social and economic conditions, i.e. living environment and old age persons, exert a considerable influence on taking advantage from a widely understood rehabilitation.

Most elderly people live in their own homes until the end of their lives, frequently alone, rarely more and more with their families. As already mentioned, this requires the provision of long term activities from the sphere of social and medical care, as well as many-sided support and assistance (Long Term Care) (Twardowska-Rajewska 2005; Grodzicki et al 2006; Twardowska-Rajewska 2007; Mossakowska et al 2012).

As shown by numerous studies, in-home medical care in the form of family doctors' visits is far from being sufficient (frequency, duration, referrals for further medical examinations, specialist consultations, diagnostic and therapeutic hospitalization). The numbers of specialist geriatricians, geriatric outpatients' clinics and geriatric beds are far too low for the real needs, which is caused not only by organizational errors but mainly by the fact that geriatric procedures are underfunded by the National Health Fund (Tokarz 2006; Mossakowska et al 2012). Refundable geriatric rehabilitation, mainly of in-house type, belongs to the most underfunded areas in geriatrics. Commercial services are so expensive that in view of modest old age pensions only very few elderly people can afford them.

Provisions of orthopaedic equipment are also insufficient: waiting time for the new or replacement of the old equipment take too long, refunds usually do not cover the whole cost of purchase, particularly as regards equipment of a higher standard (the type which should be used by the elderly). This concerns not only prostheses of the limbs but, above all, artificial teeth, glasses, hearing aids, and liquidation of architectural design barriers at home, in the staircases, public amenity buildings and in the streets. Social benefits (no regular money allowances for senior people in the system, shortage of allowances for specific purposes, poor offer, low quality and insufficient range of environmental care-related services) contribute to the emergence of institutional deficits in care-providing (Mossakowska et al 2012).

In the face of high charges for private services, families remain the main providers of nursing services for seniors and, unfortunately, they cannot count on support and assistance from the state. In an effort to meet the needs of family caregivers, in the years 2006-2010 the Poznań Branch of the Polish Gerontology Society conducted four editions of workshops training old people's family members in practical skills of home care for a disabled senior.

In 2012 at the Social Assistance Day Care Home in Bukowska Street in Poznań (Poland), the Senior's Family Caregiver Club (SFCC) was established. This club, free of charge, provides information and conducts consulting and educational activities for family members nursing their closely related seniors at home.

A new specialization in the job of a social worker – Family Assistant – was created in order to support families with problems, including those

burdened with a duty of providing a long term care for their closely related disabled seniors.

As has been said earlier, rehabilitation in geriatrics concerns specific ailments. Apart from the above mentioned diseases of the cardiovascular, respiratory, motor and nervous systems, an important sphere of activity includes typical "geriatric problems": protein and energy undernutrition (PEU with the BMI<19), geriatric infirmity syndrome with sarcopenia, hypokinesia, immunity deficit, depression, unsteadiness, dizziness and falls, ischemia and post-amputation condition, sphincter incapacity, urinary and stool incontinence, blindness, deafness, speech disturbances after strokes (sensory and motor aphasias), oncological post-operative conditions after head and neck surgery, problems with sleep, polypragmasy effects (overuse of medicines resulting in iatropathogenia, i.e. side effects). Another problem for geriatric rehabilitation is pain – acute (post-operative, post-traumatic), chronic pain in peripheral neuropathies (conflicts in degenerative disease of the spine joints, shingles), post-amputation phantom pains, cancer-related pain (in oncology and palliative medicine), pain caused by osteoporosis, long term immobility, bedsores and chronic respiration disorders (Tarasiuk 1992; Garrison 1997; Guralnik 2001; Jaracz et al 2001; Grodzicki et al 2006; Lewczuk and Białoszewski 2006; Twardowska-Rajewska 2006; Galus 2007; Twardowska-Rajewska 2007; Twardowska-Rajewska 2009).

It is difficult to mention all advantages rehabilitation (and in particular rehabilitation of the elderly) can bring about. These are a considerable intensification of angiogenesis (in the cardiac muscle, in pulmonary circulation vessels and in the brain), growth of the muscle and bone mass, increased range of movement in the joints and improvement of general physical fitness, increase of protein production (albumins, globulins) hormones, neurotransmitters, endorphins, better metabolism of lipids and carbohydrates, correction of blood pressure and the circadian rhythm of sleep and wakefulness, improvement of mood and cognitive functions. All this results in being less prone to seasonal infections, in reduction of unsteadiness, falls, fractures, a better appetite and nutritional condition, reduction of undernutrition and anorexia, depression and dementia (Garrison 1997; Galus 2007).

More and more frequent psycho-somatic (underestimated) disorders, which also come under rehabilitation activities, are observed in the period of old age (Luban-Plozza 1995). They are caused by the crises of old age – social crises which include the loss of roles in the family (loss of emotional ties, generation gap, loneliness), the loss of job-related roles ("retirement death"), negative retrospective balance of life, resulting in resignation or "hard worked for" apathy, somatic crises – physical, with a loss of fitness and mental disturbances (like cognitive disorders negated so far). Limitation of physical and mental fitness generates emotional tension, frequently compensated with excessive aspiration for achievement (defence mechanism) which is defined as masked depression (described by E. Erickson). A higher frequency of other psycho-somatic problems is also observed: skin diseases, functional disorders of the digestive tract, disorders of the cardiovascular system with arrhythmia and blood pressure, back pains and joint pains. The reason for this lies in the mechanism of aggression "directed inside" and resulting from the lack of acceptance of oneself as "an old person", which is a narcissistic reaction to stressful situations surpassing individual compensation possibilities of the elderly. There appear various forms addiction (compulsive-obsessive behaviours), psychogenic voracity (generating obesity and disturbing metabolism of carbohydrates and lipids), alcoholism, excessive dependence upon the old and the new media, compulsive shopping, compulsive use of solarium, gym, extreme sports. These are auto-destructive behaviours emerging in response to internal discomfort, frustration and deprivation. Old age, however, can be successful, good or even beautiful: "mad" – as experienced by American kidults who, in their self-created image and lifestyle, imitate aesthetics of young people in order to avoid exclusion and being put into the "ghetto" of the old, or who become "A Beautiful Old Person" – a sage, an authority, an expert, or a master for their "young disciples" (Twardowska-Rajewska 2006). The art of ageing – ars senescendi – is knowledge and skills which are worth recommending and which have to be learnt if one wants to live long and happily.

Summarizing, in the field of rehabilitation the teamwork of a physician, rehabilitation specialist, physiotherapist, has to be based upon extensive knowledge of gerontology, good interpersonal communication, empathy and the new paradigm according to which a doctor is for his/her patient not (as has been so far) an omnipotent paternalist, but a partner, a teacher, a companion, a friend, and a caregiver. Unfortunately, so far the state medical universities educating future physicians and

post-graduate specialists have not included in their contents the necessary knowledge and skills concerning formation of the so-called soft social competences (interpersonal communication, patient's education, work in multidisciplinary teams, prevention of profession-related burnout) (Twardowska-Rajewska 2006). According to Meerloo, we should ..."help those (elderly) patients, who think they have no future, look into the past, so that they could accept the present"... (Luban-Plozza 1995).

References

Abrams W.B, Beers M.H., Berkow R. (Red.wyd.ang.), Galus K., Kocemba J. (Red.wyd.Pol.), MSD Podręcznik Geriatrii, Wyd. Urban & Partner, Wrocław, 1999.

Domagała M., Narastające zagrożenie chorobami przewlekłymi. Gazeta Lekarska 2014;44-45.

Galus K. (Red.), Geriatria. Wybrane zagadnienia, Wyd. Urban & Partner, Wrocław, 2007.

Garrison S. J. (Red), Podstawy rehabilitacji i medycyny fizykalnej, Wyd. PZWL, Warszawa, 1997.

Grochmal S.(Red.), Ćwiczenia relaksowo-koncentrujące, Wyd. PZWL, Warszawa, 1995.

Grodzicki T., Kocemba J., Skalska A. (red.), Geriatria z elementami gerontologii ogólnej, Via Medica, Gdańsk, 2006.

Guralnik J.M., Progressive versus catastrophic loss of the ability to walk implications for the presentation of mobility loss, J Am Geriatr Soc 2001;49:1463-1470.

Jaracz K., Wołowicka L., Bączyk G., Sytuacja życiowa i sprawność funkcjonalna osób starszych z zaburzeniami sprawności lokomocyjnej, Geront Pol 2001;9,1:26-30.

Krysiak L., Polska starość nie musi być smutna, Gazeta Lekarska 2011;7,247:34-35.

Lewczuk E., Białoszewski D., Poziom aktywności fizycznej chorych na osteoporozę a upadki i ich profilaktyka, Ortop Traumatol Rehabil 2006;8,4:412-421.

Luban – Plozza B., Zaburzenia psychosomatyczne w praktyce lekarskiej, Wyd. PZWL, Warszawa, 1995.

Mossakowska M., Więcek A., Błędowski B.(Red.), POLSENIOR. Aspekty medyczne, psychologiczne, socjalne i ekonomiczne starzenia się ludzi w Polsce, Wyd. Medyczne TerMedia, Poznań, 2012.

Opara J., Aktywność fizyczna a prewencja w chorobie Parkinsona. Medical Tribune 2014;1:72-76.

Szadkowska E., Niewesołe życie staruszka, Newsweek 2009;39:2.

Tarasiuk W., Uwarunkowania zdrowotne i środowiskowe ograniczenia sprawności życiowej i uzależnienie ludzi starych, Zeszyty Problemowe PTG, Białystok, 1992;2:33-34.

Tokarz B. (Red.), Stop dyskryminacji ze względu na wiek, Wyd. Akademia Rozwoju Filantropii w Polsce, Warszawa, 2006.

Twardowska-Rajewska J. (Red.), Przeciw samotności, Wyd. Naukowe UAM, Poznań, 2005.

Twardowska-Rajewska J., Lekarz jako nauczyciel swojego pacjenta – seniora. [w:] Starość i starzenie się jako doświadczenie jednostek i zbiorowości ludzkich, Red. J. Kowaleski, P. Szukalski, Wyd. Zakł. Demografii UŁ, Łódź ,2006:190-197.

Twardowska-Rajewska J., Piękny umysł czy kidult. [w:] Zostawić ślad na ziemi. M.J.Haliccy (red), Wyd. Uniwersytetu w Białymstoku, Białystok, 2006;137-146.

Twardowska-Rajewska J. (Red.), Senior w domu. Opieka długoterminowa nad niesprawnym seniorem, Wyd. Naukowe UAM, Poznań, 2007.

Twardowska-Rajewska J. (Red.), Życie po udarze, Wyd. Naukowe UAM, Poznań, 2009.

Twardowska-Rajewska J., Stygmat starości z perspektywy młodości. [w:] Życiodajna śmierć –pamięci Elisabeth Kubler – Ross. Red. E. Krajewska-Kułak. Wyd. UB. Białystok, 2013.

Wojszel Z.B., Geriatryczne zespoły niesprawności i usługi opiekuńcze w późnej starości, Wyd. TransHumana, Białystok, 2009.

Żak M., Zapobieganie upadkom osób starszych – problem i wyzwanie, Medical Tribune 2011;9:28-29.

Corresponding author: Jolanta Twardowska – Rajewska, J. Zeylanda Str. No 8/10, 60 – 808 Poznań, jolaraja@amu.edu.pl