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HEALTH LOCUS OF CONTROL AND QUALITY OF LIFE IN PEOPLE WITH SPINAL CORD INJURY IN POLAND AND GREAT BRITAIN.

Abstract:

Sense of control is an important factor regulating every-day functioning and influencing appraisal of individual quality of life. In the situation of loss of motor functions, as observed in case of spinal cord injury, all aspects of person's life undergo a significant change. Unfitness to perform certain actions may be felt as a limitation of ability to influence and control both surroundings as well as a personal (physiological and emotional) sphere. It is especially crucial for people with injury level of Th6 and above, experiencing symptoms of autonomic dysreflexia, which poses a significant threat of rapid deterioration of one's health and untreated, may lead to death. Health locus of control, either internal or external, determines individual perception of factors influencing one's wellbeing and general assessment of health. It lays foundations to positive or negative evaluation of life.

The aim of this study is to investigate health locus of control and its impact on quality of life in individuals with spinal cord injury, experiencing symptoms of autonomic dysreflexia, in Poland and Great Britain.

A total of 65 individuals with spinal cord injury, level Th6 and above experiencing symptoms of autonomic dysreflexia, from Poland (33 participants) and Great Britain (32 participants) were recruited. Study group consisted of people in young and middle adulthood with mean age of 31 ± 5 . Each culturally diverse group represented a different type of care system, accordingly: institutional and person-centred/individual. Research methods used include: Multidimensional Health Locus of Control Questionnaire (MHLC), Quality of Life Questionnaire - Short Form Health Survey (SF-36), Sociodemographic Questionnaire and Autonomic Dysreflexia Questionnaire (author's construction). Results of psychometric analysis show significant differences in quality of life as well as health locus of control in two groups. Higher scores on MHLC internal subscale were found in participants from Great Britain, and were related to more positive assessment (higher scores) of quality of life in this group. Lower quality of life as well as higher results of internal subscale in MHLC questionnaire was found in participants from Poland.

Internal health locus of control is associated with positive evaluation of one's ability to control physical aspects of functioning, which is important for psychological wellbeing. Understanding relationship between locus of control and quality of life is a key to designing and implementing accurate intervention as well as education programs; being the source of support for patients.

Keywords:

spinal cord injury, autonomic dysreflexia, disability, health locus of control, quality of life

INTRODUCTION

Human development and disability has been a subject for scientific and philosophical discussion since the old ages (Pietrasiniński, 1990). Loss of motor or cognitive functions resulting in disability was seen as an ultimate aberration of development and has been stigmatised for many centuries. Current research and broadening of social mindset have created multiple opportunities for re-introduction of disabled individuals into social life without fear of rejection and objectification (Kavanagh et al. 2015). Unfortunately the atmosphere of the past time still echoes in various scholar resources, such as Thesaurus dictionary, which proposes that disability should be defined as: defect, impairment, injury, lack, weakness, invalidity, incompetency and even disqualification. This negative connotation is emphasised by proposed list of antonyms, which includes: health, strength, ability and benefit (Philip Lief Group, 2009). In order to fully understand the phenomenon of social stigma we must reach into the creation of social and personal beliefs about disability.

There are four models depicting most common perceptions of disability: medical, social, moral and tragedy models. They are strongly influenced by two fundamental philosophies. The first sees disabled people as dependent upon society, which can result in paternalism, segregation and discrimination. The second perceives disabled people as customers of what society has to offer, no longer dependent on others but also able to contribute to a social life. This approach promotes empowerment, equality, integration and development (Martiny, 2015). For the purpose of this research we have focused on two dominant models: medical and social model. The medical model stands that disability lays in physical or mental limitations of the individual and is not connected to external (social or geographical) factors. It is illustrated by the definitions introduced by World Health Organisation and places the source of the so called problem in an individual. This model proposes that first step solution should be finding the cure to make disabled person more "average or normal". Since it is not always possible, accepting the incurable impairment should be the right way to proceed (Smart, 2001). Standing in opposition to this approach is the social model of disability. It places the source of perceived disability in barriers present in person's environment as well as maladaptive social attitudes. They lead to seclusion from partaking social roles and may lead to discrimination. Inaccessible environment, negative attitudes such as prejudice and stigmatisation combined with inflexible organisational procedures disable people from regular functioning and realising their potential (Llewellyn and Hogan, 2000).

Looking at these approaches it is easy to see the potential difficulties in functioning of people with various disabilities. Therefore, George Engel introduced biopsychosocial model of health and disability. It provides a holistic approach and recognizes variety of factors, which influence individual well-being putting emphasis on interactions between them. According to this model, the fundamentals of health condition lay in person's functioning in their: physical, emotional, spiritual, cognitive and social spheres. Disruptions in one or more of these areas have consequences for the entire

system, and may lead to decline in health (Borrell-Carrio, Suchman, Epstein, 2004). This model is applicable in cases of loss of physical functions such as motor disabilities found in people with spinal cord injuries.

SPINAL CORD INJURIES – MULTIDIMENSIONAL APPROACH

According to The National Spinal Cord Injury Statistical Centre (2009) the yearly prevalence of spinal cord injury equals 12 000 cases, of which about 77% are men in the age of 16-30 years old. Results of meta analysis conducted by Cripps et al. (2011) show that the global number of people with spinal cord injuries is estimated between 250 and 1000 per million. Main causes include: automotive accidents, falls, violence and sport accidents. Spinal cord injury has a severe impact on person's psychological and physical well-being. It results in loss of motor and/or sensory ability below the level of injury. Other most common health complications include respiratory problems, difficulties in bowel and bladder management as well as increased susceptibility to developing skin conditions. Another important factor is experience of Autonomic Dysreflexia, present in people with spinal cord injury located above 6th thoracic vertebra (Th6). Characterised by a very high blood pressure, dizziness, fainting and sweatiness it poses a real threat not only to person's health but also to their survival (Rishi et al., 2010).

The severity of psychological impact of spinal cord injury on a person is determined upon their social situation and individual factors such as resilience to stress and subjective perception of the situation. Disability often means instant need for care services, which typically come in two categories: individual (home) care or institutional care. The first one (as present in Eastern European countries such as Great Britain) allows person to stay in their known environment, enables natural flow of daily routine and promotes independence. It follows the rules of Person Centred Care (Nay et al, 2009), creating broader spectrum of daily activities. On the other hand, institutional Care, present in countries such as Poland or Latvia, despite all the efforts, is more restrictive. Individuals are asked to leave their place of residence and move to a new location, where rules and flow of daily life are arbitrary. It can lead to withdrawal and restriction of decision making abilities.

Adaptation to the loss of motor ability is also connected to individual dispositions such as temperament, personality or cognitive schemata (Antonak and Hanoch, 1995). They can either facilitate or disrupt this process. Health Locus of Control seems to play a significant role in individual appraisal of well-being and development of satisfactory level of person's quality of life. Sense of control is one of the basic human needs. It is contingent upon biological and social factors. Locus of Health Control is a construct based on the theories of social learning, introduced by famous psychologists: Albert Bandura (1977) and Julian Rotter (Rotter et al.1972). It can be defined as a generalised belief about person's ability to control and modify factors that

influence components of their life, especially health. Authors suggest two main categories describing possible beliefs:

1. Internal Locus of Health Control, which is a person's belief that they can influence and modify things that are happening to them and are immediately affecting their health status. It does not necessarily mean real physical ability to control the reality; sometimes it can take a form of illusion of control.
2. External Locus of Health Control, representing a belief of others or fate play the most important role in determining the health outcomes. External forces have overwhelming power over person's life.

Internal locus of control is often perceived as more adaptable. Individual sense of having power to change things and influence one's life as well as health status can lead to positive appraisal of different spheres of life and its quality (Wallston, 1992).

Quality of Life is a multi-dimensional concept that includes domains related to physical, mental, emotional and social functioning. It can be defined as individual's perception of how different factors such as work, romantic relationships or health status (including possible illness and treatment connected to it) affect their life. Loss of health can be seen as a traumatic event interfering with fine balance between different spheres of person's life and appraisal of life satisfaction. Factors such as: gender, socioeconomical status, geographical location, ethnicity as well as individual differences in psychological functioning play an important role in establishing the level of quality of life (Nussbaum and Sen, 1993). This is why cross-cultural studies play an important role in understanding the impact of illness or disability on individual well-being.

RESEARCH DESIGN

Study Group

The research was conducted amongst 65 participants from two culturally different countries (33 individuals from Poland and 32 from Great Britain). All the participants had spinal cord injury level Th6 and above and experienced symptoms of autonomic dysreflexia. The group was homogenous in aspects of: gender distribution, age ($M = 31 \pm 5$ years old), frequency of autonomic dysreflexia symptoms (1-2 times/month), time passed since the injury ($M = 5 \pm 3$ years) and size of the city of origin. Differences were found in socio-demographic factors such as: marital status, level of education and place of residence (home or institutional care). There were four quantitative methods used in the study, which included: Sociodemographic and Autonomic Dysreflexia Questionnaires (authors' construction), Multidimensional Health Locus of Control Questionnaire (MHLC) and 36-Item Short Form Survey (SF-36v2) measuring Quality of Life. The goal of this study was a comparative analysis of different aspects of psychological functioning in people with spinal cord injury in

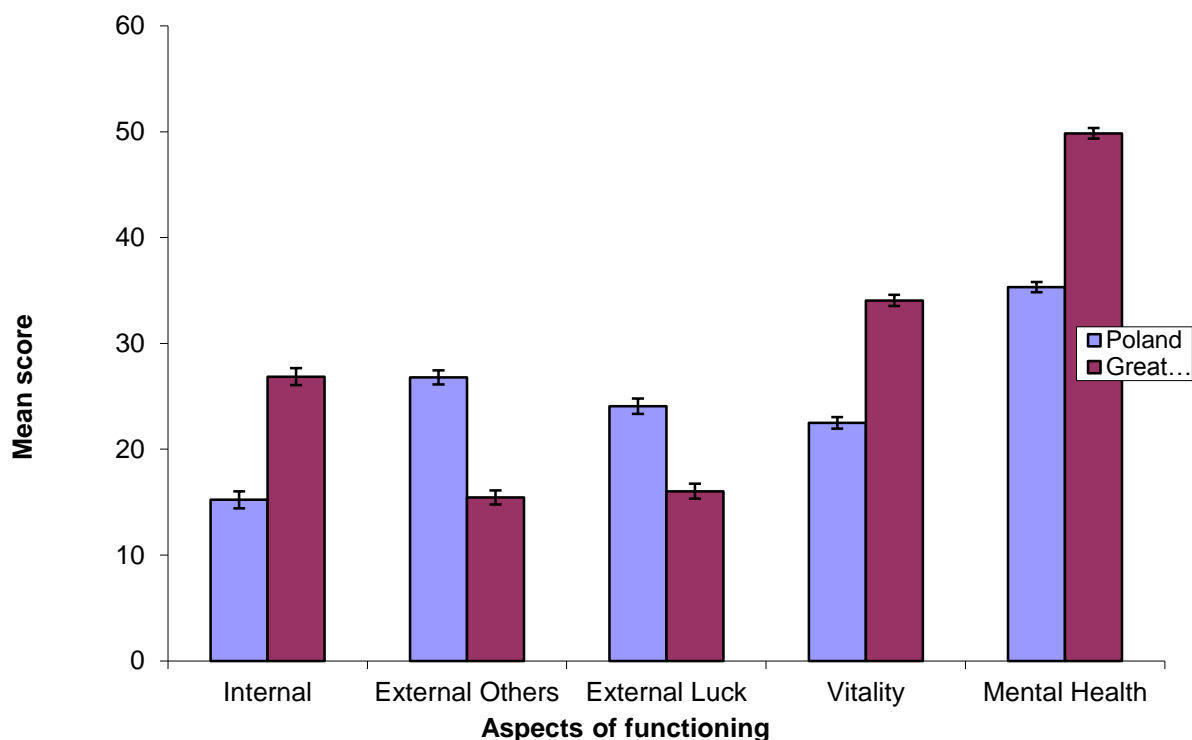
Poland and Great Britain. There are two main hypotheses created for this exploratory study:

1. The country of origin differentiates people with spinal cord injury, experiencing symptoms of autonomic dysreflexia, in aspects of: Health Locus of Control and Quality of Life.
2. There are differences, depending on the country of origin, in subjective appraisal of autonomic dysreflexia knowledge (own, carer's and medical services') and perception of influence of autonomic dysreflexia on person's life.

Results

Analyses were based on a psychometric approach with 95% confidence interval. Results of t-Student Test show statistically significant differences between groups in aspects of internal and external Locus of Health Control as well as two aspects of Quality of Life: Vitality and Mental Health ($p < 0.001$). Effect size shown as Cohen's d reveals moderate to large differences (Cohen's d : 0.487 – 2.96)

Figure 1: Mean scores for different aspects of psychological functioning



Source: Authors' own work based on the results of the research.

The analysis of one subscale of Autonomic Dysreflexia Questionnaire using U Mann-Whitney Test also reveal statistically significant differences between groups in aspects of: Appraisal of knowledge about Autonomic Dysreflexia, Appraisal of Effectiveness of prevention and management techniques for symptoms of Autonomic Dysreflexia and

General Appraisal of Influence of Autonomic Dysreflexia on person's life ($p < 0.01$). Effect size reveals medium to moderate differences. The results in British group were higher in all but one aspect of appraisal of influence of the symptoms on person's life in comparison to Polish group.

Discussion

From the results we can see the differences in levels of psychological functioning in aspects such as Locus of Health Control and Quality of Life amongst people with spinal cord injuries in Poland and Great Britain. They can be attributed to the specific structure of personality and individual experience as well as socialisation and cultural differences. Type of the care system, determining level of education of personnel as well as learning opportunities available to people seems to play a large role in determining person's appraisal of their knowledge as well as effectiveness of care provided for them. Analyses of the results of British group, showing more internal locus of control, higher quality of life and appraisal of knowledge create a fundament for discussion about impact of culture and available resources on level of functioning and quality of life of people with spinal cord injury. They lead to a conclusion that implementation of new care system in Poland could lead to improvements in different areas of psychological functioning amongst disabled people. It is crucial to look up to the British system and try to learn from its effective functioning.

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