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Wykorzystanie Międzynarodowej Klasyfikacji Funkcjonowania Niepełnosprawności i Zdrowia (ICF) w orzecznictwie lekarskim niepełnosprawności

International Classification of Functioning, Disability and Health (ICF) in medical certification of disability

Streszczenie

Wstęp. Orzecznictwo lekarskie jest szerokim pojęciem i zawiera orzekanie o stanie zdrowia, o zdolności do pracy, o stopniu niepełnosprawności, zarówno na prośbę zainteresowanego pacjenta, jak i na zlecenie różnorodnych władz. Celem niniejszego artykułu jest prezentacja możliwości wykorzystania platformy pojęciowej Międzynarodowej Klasyfikacji Funkcjonowania, Niepełnosprawności i Zdrowia (ICF) w orzecznictwie lekarskim niepełnosprawności, na przykładzie osteoporozy. Klasyfikacja ta bowiem określa zależne od stanu zdrowia możliwości człowieka jako jednostki, funkcjonowanie jego organizmu i zakres uczestnictwa w życiu społecznym. Umożliwia zobaczenia człowieka jako całości, również z jego problemami w komunikowaniu się z otoczeniem, co odgrywa bardzo ważną rolę w orzecznictwie.

Materiał i metody. Przyjętą metodą badania jest kwestionariusz ankiety dla pacjenta, zaprojektowany według EULAR ICF Core Sets Validation Study, przeprowadzony u 50 pacjentów Wojskowego Instytutu Medycznego w Warszawie.

Wyniki. Na podstawie wyników badania autorzy artykułu proponują stosowanie platformy ICF do potrzeb tworzenia taksonomii orzecznictwa lekarskiego niepełnosprawności, nakładając na to transformację do przestrzeni możliwych sformalizowanych terapii, interwencji medycznych, działań prewencyjnych i diagnoz populacyjnych. Pozwala ona, w śmiałych hipotezach autorów, na unifikację i obiektywizację orzecznictwa i podejmowania decyzji o punktach zwrotnych w wyborze procedur i terapii medycznych, a nawet dokonywać jakościowej zmiany w kulturze systemu ochrony zdrowia.

Słowa kluczowe: niepełnosprawność, orzecznictwo lekarskie, Międzynarodowa Klasyfikacja Funkcjonowania, Niepełnosprawności i Zdrowia.

Summary

Introduction. Health jurisdiction in disability is a wide concept including jurisdiction about health, ability to work, about disability. The aim of the study is presenting an opportunity of using International Classification of Functioning, Disability and Health (ICF) in medical certification exemplified by osteoporosis. The classification defines health-related abilities of an individual, functioning of the organism and the scope of participation in society. The classification allows for perception of a human as a whole, including their problems in communication with environment.

Material and methods. Questionnaire is the research tool, designed on ICF Core Sets Validation Study, filled up by 50 patients from Military Medical Institute in Warsaw.

Results. The following logical system is therefore suggested: for the needs of creation of a taxonomy differentiating the conditions of health and its loss (or a disease), the ICF platform combined with the ID-10 is used, superimposing a transformation to the space of possible formal therapies, medical interventions, preventive activities and population diagnoses. Utilisation of the ICF classification can have a significant influence on the unification and objectification of diagnostics, certification and making decisions on turning points in the choice of medical procedures and therapies and on the whole, broadly understood healthcare system.

Key words: disability, health jurisdiction, International Classification of Functioning, Disability and Health (ICF).

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The notion of disability, which is an important element of medical certification, was initially determined by medical approach and was basing on the definition of health. With the years, it started to include social aspects of disability and restrictions connected with participation in social life as well. At first, the World Health Organization defined disability as “a restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being resulting from an impairment of body functions”. In 1994, the European Disability Forum of the European Parliament defined disabled people as “people having all their rights and finding themselves in a situation impairing them as a result of environmental, economic and social barriers which they cannot overcome in the same way as other people do because of injuries they possess. These barriers are too often strengthened by depreciative attitude of the society”.

Not until 2001 did WHO precise the notion of disability in International Classification of Functioning, Disability and Health (ICF) as “multidimensional phenomenon resulting from interactions between people and their physical and social environment”. According to ICF, this notion includes also impairments, activity restrictions and participation restrictions.

Therefore, it seems essential to include such a widely understood social aspect in defining disability and in medical certification of disability as well.

In Poland, social security of disabled people is organized and performed by various systems and institutions. This is presented in the Table 1.

Three degrees of disability can be distinguished [1]:

- severe disability – diagnosed in people who are unable to work or who can perform activities only in conditions

TABLE 1. Systems and institutions organized in social security in Poland.

People	Institution	First authority	Second (appeal) authority
Employees	ZUS (Social Insurance Company)	Certifying physician of the company	Chief certifying physician of the company's department
Farmers	KRUS (Agricultural Social Insurance Fund)	Expert physicians	Medical Commissions of the Fund
Soldiers	MON (Ministry of National Defence)	Local military medical commissions	District military medical commissions
Officers	MSWiA (Ministry of Interior and Administration)	Voivodship medical commissions	District medical commissions
Disabled people	MPiPS (Ministry of Labour and Social Policy) ZUS (Social Insurance Company)	District Teams for Disability Certification organized at District Centres of Family Assistance	Voivodship Teams for Disability Certification

Source: Wilmowska-Pietruszyńska A. Orzecznictwo lekarskie. Warszawa: Urban&Partner; 2003.

of supported employment and who, in order to perform social functions, require permanent or long-lasting care of other people because they are not able to exist independently;

- moderate disability – includes people with impaired body efficiency which results in them being unable to work or being able to work only in conditions of supported employment. Such people require temporary or partial assistance of other people in order to perform social functions;
- mild disability – where abilities to work are considerably limited compared to people who have similar professional qualifications and are physically and mentally fit. People with mild disability may compensate their limitations in performing social functions with the use of orthopaedic aids and technical means.

Assessing inability to work, a medical specialist takes numerous factors into account, such as the following [2]:

- nature and course of disease processes and their influence on functional condition of the body;
- physical and mental efficiency of the body and the degree of adaptation to anatomical loss, disability, and consequences of the disease;
- possessed qualifications, age, profession, performed activities, conditions of work, and possibility of further gainful employment;
- possibilities of restoring abilities to work through therapy and rehabilitation or through professional retraining.

A certification on health condition issued by a physician should, therefore, include the following elements [3]:

- the description of the disease and its course,
- clinical data (results of physical and psychological examination),
- results of additional examination,
- diagnosis,
- applied treatment, its results and prognosis.

International Classification of Functioning, Disability and Health (ICF):

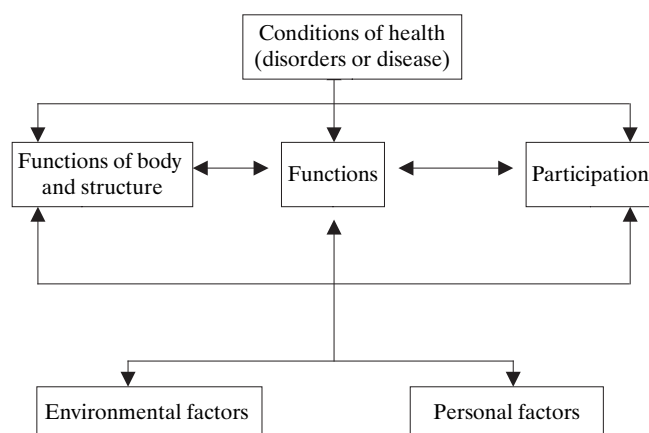
ICF is a revision of the former ICIDH system (International Classification of Impairments, Disabilities and Handicaps) of 1980 and it complements ICD-10 (International Statistical Classification of Disease and Related Health Problems), which is the tenth revision of ICD (International Classification of Diseases).

ICF is a uniform and standard structure describing health conditions and health-related states. This classification describes abilities of a person as an individual which are dependent on health, functioning of a person's body and range of their participation in social life (Fig. 1) [4].

ICF treats equally all diseases and health conditions, regardless of their causes and physical or psychological character (e.g. depression).

✓ Aims:

- providing scientific basis for understanding and analysing health, health-related states, results and determining factors
- determining common language to described health and health-related states



Source: Project PRO.FUSE. First Report [December 2004 – January 2005], Pistola, Styczeń 2005.

FIGURE 1. Interactions between ICF components.

- enabling data comparison
- determining systemic code model for health information system.

✓ Applications:

- statistical
- research
- clinical
- social
- educational

✓ ICF features:

- it understands health widely, i.e. health range and health-related range; it does not concern problems from economic and social disciplines
- it is a structure which enables one to organize data and information about practical functioning of humans and possible limitations to those functions
- it consists of two parts (Table 2) [5].

✓ Coding

ICF is meant for coding various health and health-related states.

Components: body functions *b*
body structures *s*
activity and participation *d*
environmental factors *e*.

The components consist of chapters and disciplines, e.g. in classification of body functions, the first chapter describes mental functions. In each chapter, there are categories of the second, third and fourth level.

Letters *b*, *s*, *d* and *e* are complemented with numerical codes: chapter number (one figure), the second level (two figures) and the third and fourth level (one figure for each level).

Example:

b2 Sensory functions and pain (the first level)
b210 Seeing functions (the second level)
b2102 Quality of vision (the third level)
b21022 Contrast sensitivity (the fourth level)

The codes are complemented with a qualifier which determines the health level (i.e. the importance of the problem). Qualifiers are coded with one, two or three figures after the comma. The codes are not valid without qualifiers.

TABLE 2. Functional and contextual part of ICF.

	Part I: Functioning and Disability		Part II: Contextual factors	
Elements	Body functions and structures	Activity and participation	Environmental factors	Personal factors
Scopes	Body functions and structures	Life areas (tasks, activities)	External influence on functioning and disability	Internal influence on functioning and disability
Classified features (construct)	Change in body function	<i>Potential</i> Performing activities in standard environment	Facilitating or inhibiting the influence of environmental factors	Influence of personal factors
	Change in body structure	<i>Capacity</i> Performing activities in real environment		
Positive aspect (functioning)	Impairment	Activity limitation	Barriers / obstacles	does not apply
		Participation restriction		

Project PRO.FUSE. First Report [December 2004 – January 2005], Pistola, Styczeń 2005.

All three components are classified according to the same scale [6].

xxx.0	NO problem	0-4%
xxx.1	MILD problem	5-24%
xxx.2	MODERATE problem	25-49%
xxx.3	SEVERE problem	50-59%
xxx.4	COMPLETE problem	96-100%
xxx.8	not specified	
xxx.9	not applicable	

ICF is a new tool and it may facilitate standardization of medical certification which should not limit itself only to diagnosing and treating diseases but it should also guarantee the improvement of the quality of chronically ill people's lives through early determination of possibilities for disability compensation and its scope. The main purpose of all activities undertaken in this field should be to guarantee the possibly longest performance of social and professional functions by these people. The mentioned activities are, above all, constant and complex rehabilitation as well as all facilities enabling gainful employment, e.g. through proper professional training and adapting work stations to possibilities of a given person.

The purpose of this article is to present the possibilities of using the notion platform of the International Classification of Functioning, Disability and Health (ICF) in the medical certification of disability with the example of osteoporosis. This classification determines possibilities of a person as an individual which are dependent on health condition, functioning of a person's body, and their range of participation in social life. It allows to characterize an individual as a whole, together with their problems with communication with environment, what plays a significant role in medical certification.

Osteoporosis is a disease which is characterized with reduced bone mass. The consequence is an increased bone brittleness and susceptibility to fractures which results in chronic pains and disability. However, do people suffering from this disease differ from each other? Is qualifying them to one disability group justified? Medical certification should not come down to determine the areas of lack of ability but it should also point out to fields where an individual may still be active. The authors of this article formulate a hypothesis that the ICF notion platform could be successfully used here. Isolating categories in a group of patients suffering from, for instance, osteoporosis may enable their proper rehabilitation and stimulation to activity in everyday life and professional life in future.

To this purpose, research was carried out and covered patients with recognised osteoporosis treated in the Military Medical Institute in Warsaw. The adopted research tool was a questionnaire for the patients, designed according to EULAR ICF Core Sets Validation Study. The examined group consisted of 50 people (10 men and 40 women) between 52 and 88 years old. Professional life of the subjects is presented in the Chart 1.

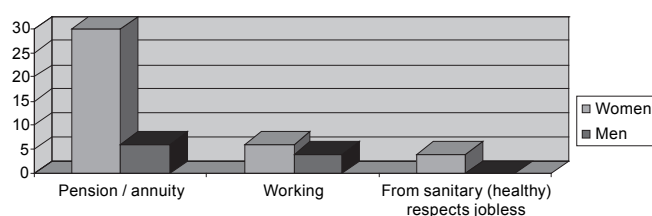


CHART 1. Professional life of the subjects.

Source: Personal elaboration

The body build of the respondents was characterised basing on body mass and height (Chart 2).

Nine respondents live alone; the others live together with family members.

Basic data concerning osteoporosis diagnosed in examined patients is presented in Table 3.

In the questionnaire, 55 questions were used which come from ICF and concern all four components of the classification. In order to determine whether the respondents differ from each other concerning the analyzed features, which could be used in medical certification, further therapy and restoring activity, an analysis of results was performed. Eight features were determined which made the respondents different from each other and basing on which the respondents could be divided into subgroups. These are the following:

- Sensation of pain – b280 (Chart 3)

Among the respondents, 3 groups could be distinguished: patients sensing „moderate” unpleasant feelings connected with pain related to their disease (grey colour), those extremely sensitive to pain connected with their disease (white colour) and those sensing constant pain connected with osteoporosis (black colour).

- Products and technology for personal use un daily living – e115 (Chart 4)

Three groups determined within e115 component of ICF: patients using equipment in connection with osteoporosis

TABLE 3. Basic data concerning osteoporosis diagnosed in examined patients.

Patient	Date of diagnosis	Localization of osteoporosis						Number of operations / date	Number of hospitalisations
		Right knee	Left knee	Right hip	Left hip	Back-bone	Hands		
1	1998	x	x		x			0	0
2	1999	x	x		x			0	0
3	2000	x	x		x			0	0
4	1994	x	xx	x	x	x	x	0	0
5	1993	x	x	x	x	x		0	0
6	2000		x		x	x		0	0
7	2004			x				0	0
8	2002			x				0	0
9	1988			x				0	0
10	1989	x	x					0	0
11	1998	x	x			x		0	0
12	1990			x				0	0
13	1998	x	x	x				0	0
14	1994	x	x	x	x	x	x	0	0
15	2000	x						0	0
16	2003		x					0	0
17	2002		x					0	0
18	1990	x	x					0	0
19	1998	x	x	x	x			1/ 15.06.05	2
20	2005	x						0	0
21	2004			x				0	2
22	2000			x				0	0
23	2003		x					0	0
24	1998	x	x	x			x	0	2
25	2000	x	x	x	x		x	0	1
26	1989	x						0	0
27						Lack data			
28	2005	x	x		x		x	0	1
29	1998	x	x		x			0	0
30	1998	x	x	x				0	1
31	1986	x	x		x			0	0
32	1995	x	x				x	0	0
33	1989	x	x	x				0	0
34	2002	x	x				x	0	0
35	2004	x						0	0
36	1999	x	x	x	x	x	x	0	0
37	2004	x	x				x	0	0
38	1989		x					0	0
39	1990	x	x	x	x	x	x	0	0
40	2004		x					0	0
41	2001				x			0	0
42	2000	x	x			x		0	0
43	2000	x	x		x	x	x	0	0
44	2004	x						0	0
45	1990	x	x			x	x	0	0
46	2003	x	x		x	x	x	0	1
47	2004	x						0	0
48	1998	x	x	x		x		0	0
49	2000	x	x					0	0
50	2000				x			0	0

Source: Personal elaboration

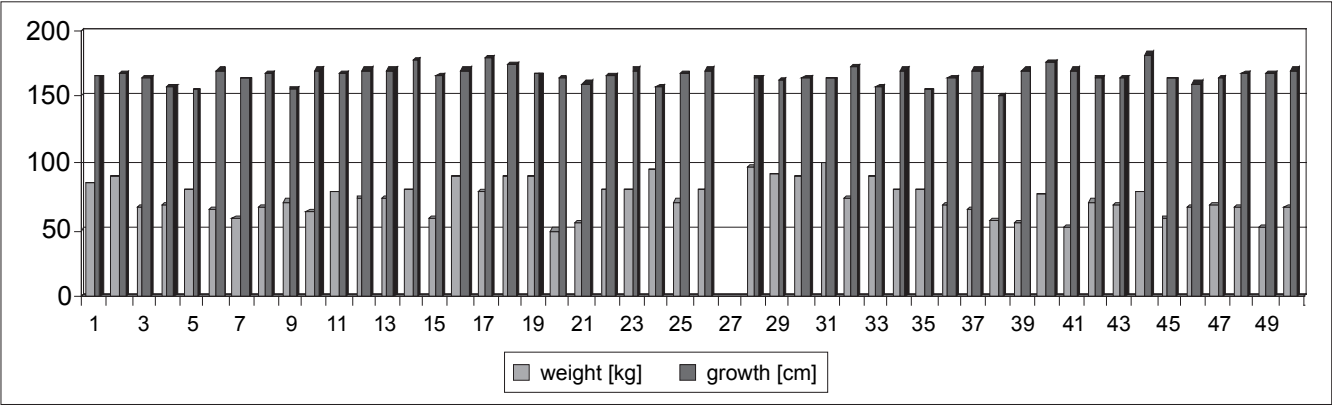


CHART 2. The body build of the respondents.
Source: Personal elaboration

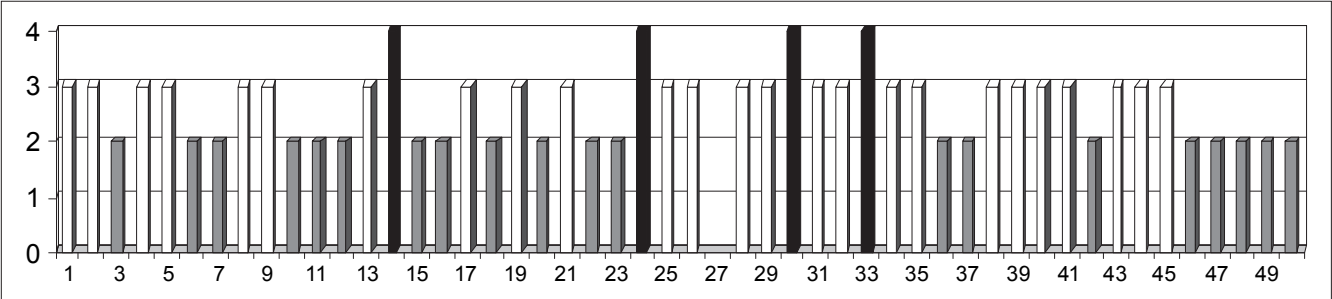


CHART 3. Sensation of pain – b280.
Source: Personal elaboration

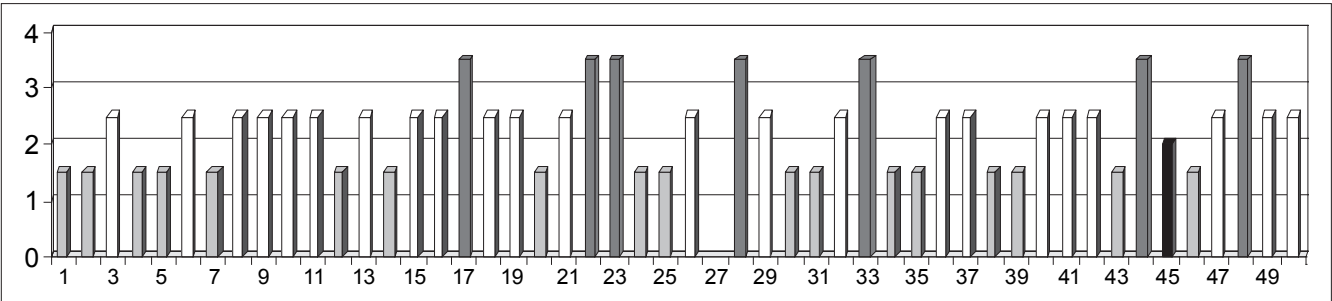


CHART 4. Products and technology for personal use un daily living – e115.
Source: Personal elaboration

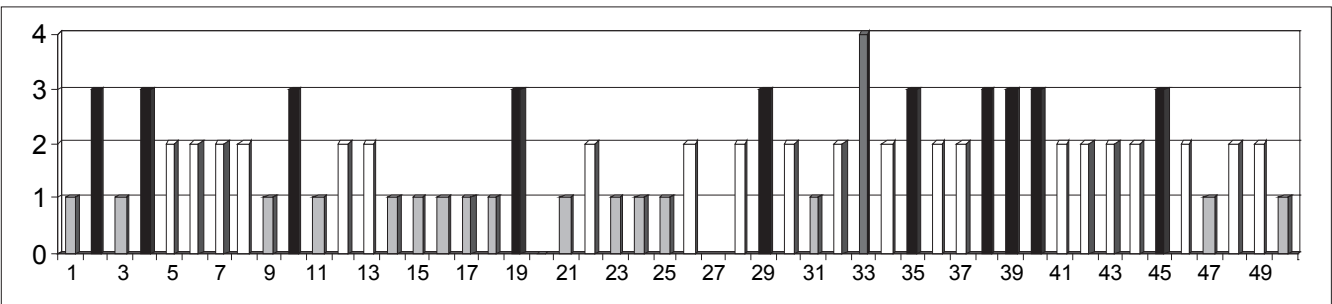


CHART 5. Gait pattern functions – b770.
Source: Personal elaboration

not to great extent (grey colour), those using equipment to a moderate extent (white colour) and those using the equipment to a great extent (dark grey colour).

- Gait pattern functions – b770 (Chart 5)
Four group of patients: those moving without the equipment (grey colour), those using the equipment only as a support (able to move without the equipment as well) (white

colour), those moving only with the aid of the specialist equipment (black colour), and those moving with the aid of a wheelchair (dark grey colour).

- Doing homework – d640 (Chart 6)
Five groups of patients: those with no difficulties in doing housework (dark grey colour), those having no great difficulties in doing housework (light grey colour), those

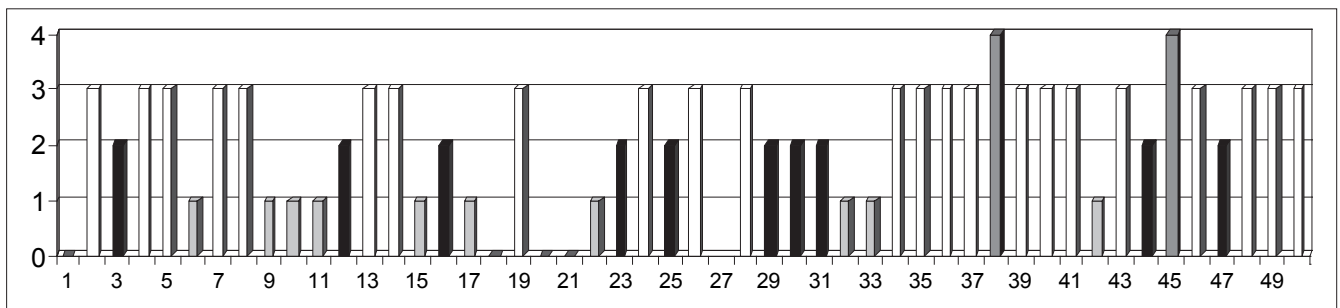


CHART 6. Doing homework – d640.

Source: Personal elaboration

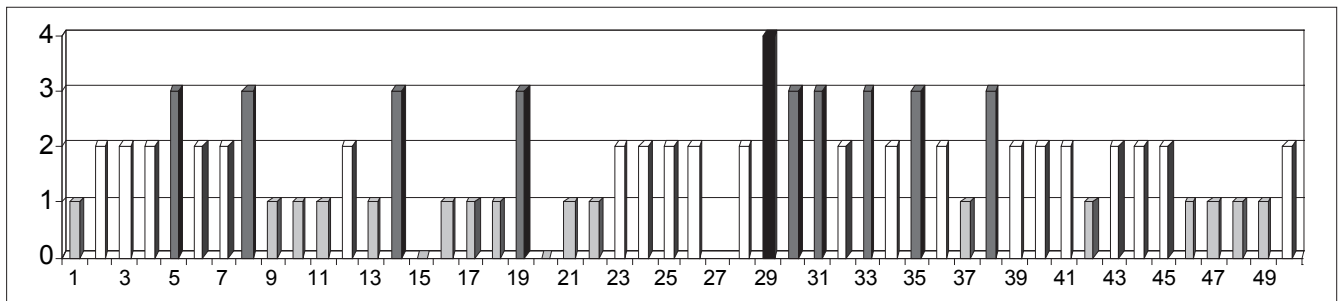


CHART 7. Using transportation – d470.

Source: Personal elaboration

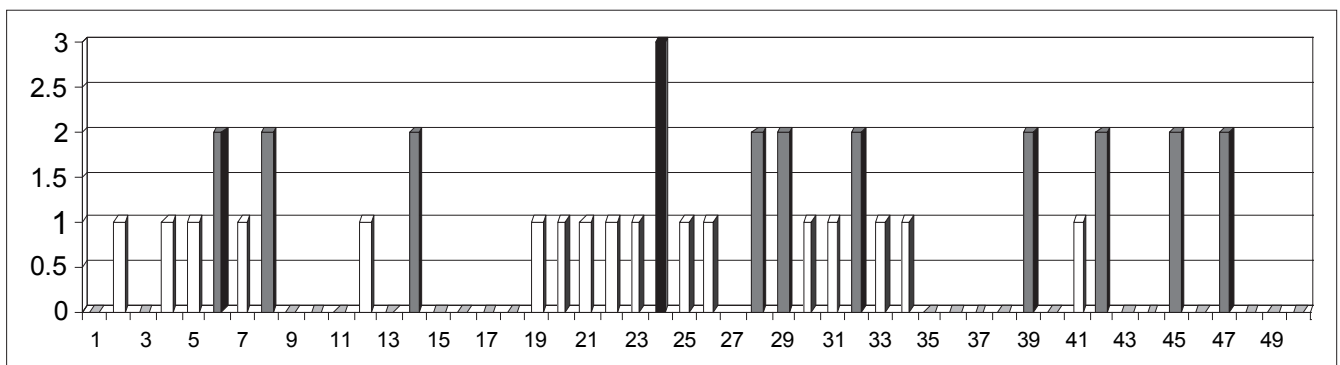


CHART 8. Recreation and leisure – d920.

Source: Personal elaboration

doing housework with perceptible difficulties (black colour), those having great difficulties in doing housework (white colour), and those unable to do any housework on their own (grey colour).

- Using transportation – d470 (Chart 7)

Three distinct group of patients: those using such transportation very rarely (grey colour), those using it frequently (white colour), and those using it very frequently (dark grey and black colour).

- Recreation and leisure – d920 (Chart 8)

Regarding difficulties related to the disease in spending free time in a way chosen by a patient, three groups can be distinguished: patients who do not have difficulties related to their disease in undertaking chosen activities in their free time (light grey colour), those who have no great difficulties (white colour), and those who have moderate difficulties in undertaking chosen activities in their free

time (but the disease does not make it impossible) (grey and black colour).

- Washing oneself – d510 (Chart 9)

Three groups of patients:

- those having no difficulties with activities connected with personal hygiene (light grey colour),
- those having moderate difficulties (white colour),
- those having great difficulties (but those difficulties do not make it impossible for them to wash themselves on their own) (dark grey and black colour)

- Personal hygiene – d530 (Chart 10)

Three groups of patients:

- those having no difficulties in activities connected with personal hygiene (grey colour),
- those having no great difficulties (white colour),
- those having moderate difficulties (but those difficulties do not make it impossible for them to perform activities

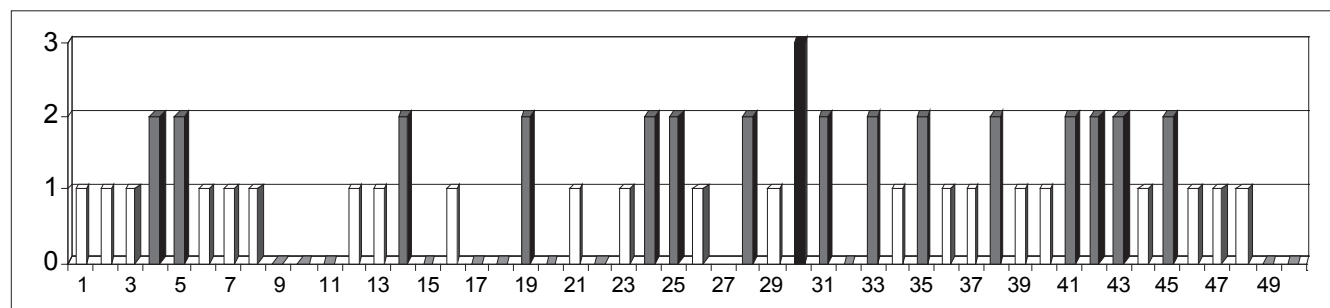


CHART 9. Washing oneself – d510.

Source: Personal elaboration

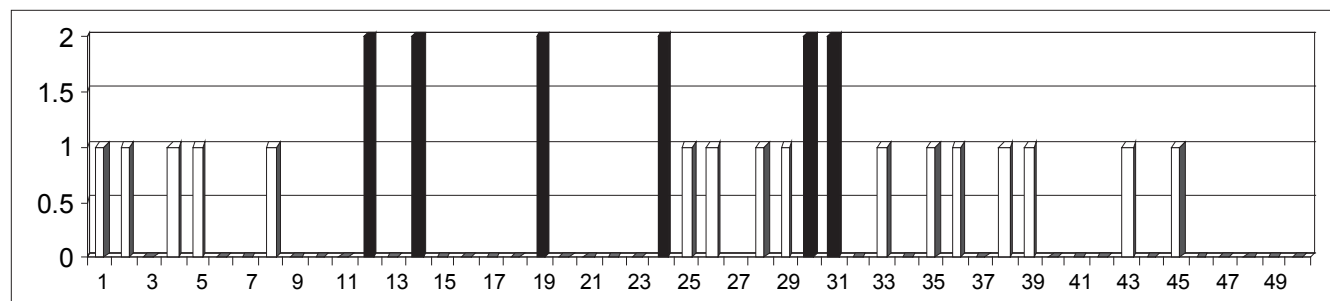


CHART 10. Personal hygiene – d530.

Source: Personal elaboration

connected with personal hygiene on their own) (black colour).

The presented examples point out to areas within which several groups of patients can be distinguished; these groups differ significantly in terms of quality. These groups concern particularly areas of everyday life which are not connected with treatment or gainful employment and which, therefore, do not constitute prosperity. These areas are omitted in the medical certification system in Poland. Basing on results of the analysis obtained during the research, the authors formulate a hypothesis about the necessity of including the presented life areas of patients suffering from osteoporosis to medical certification of disability. Furthermore, the possibility of distinguishing groups of patients in each of these areas enables one to reach a conclusion that including these divisions into medical certification is necessary as well.

Therefore, the authors of the article propose to use the ICF platform for the needs of creating the taxonomy for medical certification of disability, transforming it to the sphere of possible formalized therapies, medical interventions, preventive activities, and population diagnoses. The ICF platform makes it possible, in daring hypotheses of the authors, to standardize and objectivise medical certification and the decision-making process concerning the turning points in the selections of medical procedures and therapies, and it even allows qualitative change in the culture of the health care system. Basing on the carried out research, we obtain a multidimensional assessment of functioning (disability). However, a universal and complete scale for rheumatoid diseases (assessment aggregate in the form of, for example, cluster procedure or cluster analysis) may be developed only after the examination of several homogenous groups of patients' population with various diseases (rheumatoid arthritis, lupus and others). Only the assessment of

this type performed on the basis of the ICF platform will make it possible to objectivise the medical certification of disability. In case of the lack of such a scale, medical certification may be assisted by weighing individual components in the multidimensional model presented in the study.

Using the tool such as ICF in medical certification, e.g. in osteoporosis, would enable not only changes in certifying the disability degree but would also indicate those areas which could be used in the process of restoring the patients' confidence in their own abilities.

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