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ORIGINAL ARTICLE

Importance of most frequent needs of the disabled in shaping areas of support in public health. Part 1. Analysis of selected demographic and social characteristics of the disabled with consideration of the causes of body dysfunction, legal disability status, and selected characteristics of the state of health

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Abstract

Introduction and objective. The disabled are a group with a heterogeneous structure of causes and needs. The occurring physical, health, and social barriers constitute areas of public health. Assessment of these barriers requires systematic studies in order to use results supporting the tasks of public health, indispensable for pursuing the challenges of sustainable development. The aim of the study was to discuss the selected demographic, social, living and housing, as well as economic characteristics of the disabled rural and urban inhabitants, which are important for shaping the tasks of public health.

Material and methods. The study group consisted of 676 disabled aged 19 – 98 years, including 56.4% of females and 43.6% of males, 38.0% of whom lived in rural areas. The disabled were qualified into a study group by the method of targeted sampling. The research instruments were an author-constructed Disability Questionnaire, and the Research Protocol. Statistical analysis was performed using the software IBM SPSS Statistics v. 27. The p values $p < 0.05$ were considered statistically significant.

Results. The level of risk of the phenomenon of disability was similar among both males and females. Higher risk was observed among widows and widowers, females with a low level of education, the disabled in older age groups, as well as those living in rural areas, maintaining themselves on non-earned sources of income, and running a single person household. The main causes of disability were diseases.

Conclusions. 1. The majority of the population in the study were disabled with a legal grade of disability. 2. The analyzed characteristics fell within two groups: demographic and social, and health characteristics with difficult to separate health and social problems. 3. The most important problems in the area of public health were specified. 4. It is necessary to conduct studies considering demographic and social variables in order to level-up health inequalities between the disabled and those able-bodied. Effective solving of barriers and risks embedded in the social, family, and occupational situation prevents secondary disability, and also provides an opportunity for sustainable development in this population group.

Keywords

public health, disabled, demographic and social characteristics, causes of disability

INTRODUCTION

In every society the disabled constitute groups varying in percentages and of a heterogeneous structure of causes. Their numbers depend on many health, social, demographic, or cultural factors. These factors rarely occur independently, most of them mutually interact, and some are closely dependent on each other.

The concept of disability has been evolving for centuries, and this evolution is mainly determined by socio-cultural, historical, and geographic factors, as well as the general level of knowledge of the society and types of values shared. To-date, there is no arbitrarily adopted definition of a disabled person, due to the multiplicity of issues falling within the

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profiles of health, psychological, social, or environmental effects. Therefore, the concept of disability occurs in legal acts of various rank.

Here, the international document which is the UN Convention on the Rights of Persons with Disabilities of 13 December 2006 is of great importance According to the experts from this organization '*persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with other*s' [1].Therefore, there is a need for breaking with the medical model of disability on behalf of the social model [2, 3]. Many studies demonstrate that for the disabled persons social barriers constitute a considerably bigger obstacle in social functioning than their functional limitations [4, 5].

According to the estimation data, in Poland, the disabled constitute approximately 12 –14% of the general population. These data come from the National Censuses, all-Polish studies, results of studies arranged by the Central Statistical Office, and various research centres [6, 7, 8].

The article presents data which cover the social aspect of research, consisting of two groups of characteristics. The first group are basic demographic data (gender, age, marital status, number of people per dwelling). The second group includes social information with consideration of the health domain, i.e. causes of disability, disability status, frequency of past treatment in sanatorium conditions, self-reported state of health, and the feeling of being disabled. The results obtained will be used for the recognition and assessment of the respondents' medical and social needs, the majority of which are public health problems, and will be presented in the second part of the publication.

OBJECTIVES

The aim of the study was to discuss the selected demographic, social, living and housing conditions, as well as economic characteristics of the disabled in the light of health and social data, i.e. causes of body dysfunction, legal disability status, self-reported state of health, possibility of treatment in sanatorium conditions, and the feeling of being disabled. A part of these factors disrupt daily functioning in the life environment.

MATERIALS

The study included 676 disabled living in the Lublin and Kielce Provinces during 2011–2019. The percentage of females was higher – 56.4% (381) than that of males – 43.6% (295) ($p < 0.001$). The respondents' age ranged from 19 – 98, mean age of males was 62, while that of females – 65.5 ($p = 0.003$), and the mean age of the total number of study participants was 64 years. The percentages of respondents at productivity age were similar – 65 and under – 51.2%, whereas of those at post-productivity age, i.e. over 65 – 48.9%.

The study group consisted of two subpopulations, and disability was determined according to two evaluation criteria. The first criterion was legal decision concerning one of the three grades of disability (or one of the three disability groups). This was the subpopulation of the disabled whose body dysfunctions were confirmed by a medical decision (legally disabled). The second criterion of inclusion into the study group was the respondents' self-reported state of health concerning the types of limitations in daily functioning. These limitations were the consequence of a disease, genetic/congenital defect, and/or sudden events. Objective data in this respect were collected based on medical records, using a standardized Research Protocol. Self-reported state of health and confirmed body dysfunctions were the criteria for inclusion of these persons into the study group. These were respondents who did not have the legal decision concerning the grade of disability, conventionally called biologically disabled [9].

The group of respondents with legal decision concerning disability included two subgroups with different documents confirming disability. Until 31 December 1997 disability was legally confirmed in three groups: Disability Groups 1, 2, and 3. Since 1 January 1998 the provisions of the act provide disability grades by the determination of its degrees, i.e. severe, moderate, mild. Disability Groups are translated into grades of disability, i.e. Disability Group 1 – severe degree of disability; Disability Group 2 – moderate degree of disability; Disability Group 3 – mild degree of disability [10].

METHODS

Research methods and research tools

The disabled in the study group were selected by the method of targeted sampling. Into the study were qualified exclusively those legally or biologically disabled, capable of completing the survey, who expressed their consent to participate in research. The place of the study were three primary care and specialist care outpatient departments, residential homes, and hospital wards. In all the above-mentioned health care facilities the study was conducted after obtaining the consent from the manager or director of an individual unit. All administrative units of health care and residential homes were selected by simple random sampling, from the groups of the institutions where the managers expressed their consent for the study.

The direct survey was carried out using a standardized Disability Questionnaire, consisting of 43 open, closed, and semi-open questions arranged in four thematic groups: 1) Demographic and social data (15 items); 2) Data concerning the state of health and treatment (16 items); 3) Data concerning rehabilitation (6 items); and 4) Most important social and environmental problems (6 items). The items contained in the questionnaire were of two types: questions about the respondent's opinion, and questions pertaining to the facts related with the selected health and/or social problems. Medical records possessed by respondents or institutions where the respondents were treated or stayed permanently were used in order to obtain reliable information concerning disease entities diagnosed at different times, due to which they were or had been treated. Four-point Research Protocol was developed to collect unified medical data for each patient.

The proper study was preceded by a pilot study carried out in a group of 38 disabled selected from the target group. The goal of this task was checking the correctness of the established research procedure, i.e. selection of the study population, the adopted variables, and research instruments used.

STATISTICAL ANALYSES

Statistical analyses were performed by means of the software package IBM SPSS Statistics v. 27. The significance of the

differences between nominal variables were assessed using chi-square tests. In the case of interval and ordinal variables the differences were investigated by means of Mann-Whitney U test (two independent groups), or Kruskal-Wallis test (more than two independent groups). The 2-tailed p-values less than 0.05 were considered statistically significant.

RESULTS

Most important demographic and social data

The study included 676 respondents, with a higher percentage of females – 56.4% (381) than males – 43.6% (295) – p <0.001. Based on the four age groups distinguished it was found that the disabled were qualified into Group 2 (50–64) – 35.8% almost as frequently as to Group 3 (65–79) – 34.8%. Also, the percentages of respondents in extreme groups were similar, i.e. the youngest age group (<50) – 15.4%, and the oldest age group (≥80) – 14.1%. The largest group of the disabled were married – 40.4%, followed by those widowed – 33.9%, never married – 16.7%, and divorced – 9.0% of the total number of respondents. Males and females significantly differed according to marital status (p<0.0001). In the subpopulation of males the percentage of those who remained in a marital relationship was significantly higher compared to females (46.8% and 35.4%, respectively), as well as the percentage of those never married (20.7% and 13.6%, respectively). In turn, among females the percentage of those widowed was significantly higher than among males (43.3% and 21.7%, respectively).

Three categories of the respondents' place of residence were distinguished in the study, and significant differences were observed according to age (p=0.006). It was found that the percentages of the youngest respondents (<50) living in rural areas, and the oldest respondents (≥80) who lived in cities with the population more than 100,000 were nearly the same (44.2% each). No differences in the place of residence were observed according to gender.

The majority of the disabled in the study had a low level of education. The largest group of respondents had primary school education – 37.7%, followed by those with secondary school education – 27.4%, and primary vocational education – 23.5%, and only every tenth person had a higher education (11.4%). Primary school education was more frequent among females (43.0%), while vocational primary school education – among males (32.5%) (p<0.0001). Primary school education was more frequently observed in older age groups, i.e. 65–79 – 46.8% and ≥80 – 70.5% (p<0.0001) – Tab. 1.

Table 1. Characteristics of the selected demographic and social data according to gender and age groups

Variable	Category	Total		Gender					Age								
				Males		Females		Sig.	< 50 yrs		50-64 yrs		65-79 yrs		80 yrs and older		Sig.
Total: N Row %		676	100	295	43.6	381	56.4	-	104	15.4	242	35.8	235	34.8	95	14.1	-
		N	Col. %	N	Col. %	N	Col. %		N	Col. %	N	Col. %	N	Col. %	N	Col. %	
Place of residence	Rural area	257	38.0	125	42.4	132	34.6	0.100	46	44.2	96	39.7	95	40.4	20	21.1	**0.006**
	City with population up to 100,000 inhabitants	205	30.3	80	27.1	125	32.8		35	33.7	70	28.9	67	28.5	33	34.7	
	City with population exceeding 100,000 inhabitants	214	31.7	90	30.5	124	32.5		23	22.1	76	31.4	73	31.1	42	44.2	
Marital status	Never married	113	16.7	61	20.7	52	13.6	**p < 0.0001**	47	45.2	36	14.9	20	8.5	10	10.5	**p < 0.0001**
	Married	273	40.4	138	46.8	135	35.4		39	37.5	131	54.1	92	39.1	11	11.6	
	Divorced/Separated	61	9.0	32	10.8	29	7.6		8	7.7	33	13.6	17	7.2	3	3.2	
	Widowed	229	33.9	64	21.7	165	43.3		10	9.6	42	17.4	106	45.1	71	74.7	
Education level	Primary	255	37.7	91	30.8	164	43.0	**p < 0.0001**	21	20.2	57	23.6	110	46.8	67	70.5	**p < 0.0001**
	Primary vocational	159	23.5	96	32.5	63	16.5		27	26.0	68	28.1	53	22.6	11	11.6	
	Secondary	185	27.4	76	25.8	109	28.6		36	34.6	82	33.9	54	23.0	13	13.7	
	Higher	77	11.4	32	10.8	45	11.8		20	19.2	35	14.5	18	7.7	4	4.2	
Occupation	Workers/farmers	45	6.7	28	9.5	17	4.5	0.034	16	15.4	27	11.2	2	0.9	0	0.0	**p < 0.0001**
	Specialists, office workers, technicians	47	7.0	20	6.8	27	7.1		21	20.2	24	9.9	2	0.9	0	0.0	
	Non-working	584	86.4	247	83.7	337	88.5		67	64.4	191	78.9	231	98.3	95	100.0	
Duration of employment	20 years or less	101	34.1	48	34.5	53	33.8	0.888	41	71.9	32	27.8	22	23.2	6	20.7	**p < 0.0001**
	More than 20 years	195	65.9	91	65.5	104	66.2		16	28.1	83	72.2	73	76.8	23	79.3	

Variable	Category	Total		Gender					Age								
				Males		Females		Sig.	< 50 yrs		50-64 yrs		65-79 yrs		80 yrs and older		Sig.
Total: N Row %		676	100	295	43.6	381	56.4	-	104	15.4	242	35.8	235	34.8	95	14.1	-
		N	Col. %	N	Col. %	N	Col. %		N	Col. %	N	Col. %	N	Col. %	N	Col. %	
Source of maintenance	agricultural work	25	3.7	11	3.7	14	3.7	0.085	5	4.8	18	7.4	2	0.9	0	0.0	**p < 0.0001**
	non-agricultural work	68	10.1	36	12.2	32	8.4		33	31.7	33	13.6	2	0.9	0	0.0	
	agricultural health benefit	77	11.4	25	8.5	52	13.6		2	1.9	16	6.6	34	14.5	25	26.3	
	retirement pension	222	32.8	88	29.8	134	35.2		2	1.9	47	19.4	126	53.6	47	49.5	
	disability allowance	230	34.0	108	36.6	122	32.0		47	45.2	110	45.5	57	24.3	16	16.8	
	non-earned sources/ dependent on other(s)	54	8.0	27	9.2	27	7.1		15	14.4	18	7.4	14	6.0	7	7.4	
Number of persons who share accommodation with respondent	Living alone	131	19.4	52	17.6	79	20.7	**0.022**	15	14.4	35	14.5	51	21.7	30	31.6	**p < 0.0001**
	Living with 1 person	226	33.4	94	31.9	132	34.6		22	21.2	71	29.3	95	40.4	38	40.0	
	Living with 2 persons	126	18.6	52	17.6	74	19.4		19	18.3	58	24.0	35	14.9	14	14.7	
	Living with 3 persons	88	13.0	53	18.0	35	9.2		24	23.1	37	15.3	20	8.5	7	7.4	
	Living with 4 persons or more	105	15.5	44	14.9	61	16.0		24	23.1	41	16.9	34	14.5	6	6.3	
Material standard	very good	27	4.0	11	3.7	16	4.2	0.823	3	2.9	9	3.7	13	5.5	2	2.1	0.363
	good	238	35.2	108	36.6	130	34.1		38	36.5	76	31.4	85	36.2	39	41.1	
	mediocre	270	39.9	112	38.0	158	41.5		42	40.4	93	38.4	98	41.7	37	38.9	
	poor	124	18.3	55	18.6	69	18.1		17	16.3	58	24.0	35	14.9	14	14.7	
	very poor	17	2.5	9	3.1	8	2.1		4	3.8	6	2.5	4	1.7	3	3.2	
Housing conditions	very good	80	11.8	32	10.8	48	12.6	0.849	7	6.7	28	11.6	28	11.9	17	17.9	0.304
	good	341	50.4	145	49.2	196	51.4		49	47.1	123	50.8	126	53.6	43	45.3	
	mediocre	210	31.1	97	32.9	113	29.7		41	39.4	77	31.8	66	28.1	26	27.4	
	poor	37	5.5	17	5.8	20	5.2		7	6.7	12	5.0	11	4.7	7	7.4	
	very poor	8	1.2	4	1.4	4	1.0		0	0.0	2	0.8	4	1.7	2	2.1	
Number of rooms in a dwelling	1-2 rooms	223	35.6	87	32.6	136	37.8	0.148	28	27.5	54	24.2	80	37.4	61	69.3	**p < 0.0001**
	3-4 rooms	286	45.6	121	45.3	165	45.8		54	52.9	121	54.3	91	42.5	20	22.7	
	5 rooms or more	118	18.8	59	22.1	59	16.4		20	19.6	48	21.5	43	20.1	7	8.0	
Running water	No	27	4.0	13	4.4	14	3.7	0.630	3	2.9	8	3.3	9	3.8	7	7.4	0.325
	Yes	649	96.0	282	95.6	367	96.3		101	97.1	234	96.7	226	96.2	88	92.6	
Toilet	No	53	7.8	23	7.8	30	7.9	0.970	7	6.7	14	5.8	23	9.8	9	9.5	0.365
	Yes	623	92.2	272	92.2	351	92.1		97	93.3	228	94.2	212	90.2	86	90.5	
Bathroom	No	45	6.7	23	7.8	22	5.8	0.296	8	7.7	11	4.5	17	7.2	9	9.5	0.354
	Yes	631	93.3	272	92.2	359	94.2		96	92.3	231	95.5	218	92.8	86	90.5	
Gas supply	No	307	45.4	133	45.1	174	45.7	0.880	45	43.3	96	39.7	105	44.7	61	64.2	**0.001**
	Yes	369	54.6	162	54.9	207	54.3		59	56.7	146	60.3	130	55.3	34	35.8	
Central heating	No	77	11.4	33	11.2	44	11.5	0.883	15	14.4	27	11.2	29	12.3	6	6.3	0.309
	Yes	599	88.6	262	88.8	337	88.5		89	85.6	215	88.8	206	87.7	89	93.7	
Telephone	No	111	16.4	45	15.3	66	17.3	0.472	12	11.5	33	13.6	44	18.7	22	23.2	0.065
	Yes	565	83.6	250	84.7	315	82.7		92	88.5	209	86.4	191	81.3	73	76.8	

As many as 86.4% of the disabled in the study were non-working. The percentage of non-working respondents significantly increased with age (p<0.0001). The percentage of respondents with duration of employment longer than 20 years was nearly twice as high (65.9%), compared to those with shorter work experience – up to 20 years (34.1%). With the exception of the youngest age group, in all remaining groups the percentage of persons with long work experience was higher (p<0.0001).

Analysis of the adopted categories of the source of maintenance allowed to distinguish two largest groups, i.e. disability allowance (34.0%) and retirement pension (32.8%). Males insignificantly more often maintained themselves on disability allowance (36.6%), whereas females more frequently received retirement pension (35.2%). Significant differences were observed by age (p<0.0001). Retirement concerned respondents in older age groups (65–79 – 53.6%; ≥80 – 49.5%), whereas disability allowance was more often received by respondents in younger age groups (<50 – 45.2%; 50–64 – 45.5%).

Older respondents more frequently lived alone or with only one person (65–79 – 21.7%, 40.4%; ≥80 – 31.6%, 40.0%). The younger disabled significantly more rarely lived alone (< 50 – 14.4%; 50–64 – 14.5%), and they considerably more often (< 50 – 64,5%; 50–64 – 56.2%) shared accommodation with two or more persons (p<0.0001). Similar situation was observed with respect to the number of rooms in a dwelling. Respondents from older age groups more often lived in one or two-room dwellings (65–79 – 37.4%; ≥80 – 69.3%), while those younger in dwellings with three or more rooms (p<0.0001). Males significantly more frequently than females shared accommodation with three persons (18.0% and 9.0%, respectively), apart from this, no major differences were noted according to gender (p = 0.022).

Two more characteristics were also analyzed which are undoubtedly elements of markers of the quality of life, i.e. self-assessment of material standard and housing conditions according to the 5-point scale. No statistically significant differences were found according to gender and age. The respondents most often evaluated their material standard as mediocre (39.9%), and housing conditions – as good (50.4%).

Data concerning equipping the respondents' households with basic facilities indicated that the majority of them were available, and the differences according to gender and age were insignificant. Running water was available in 96.0% of the respondents' households, whereas central heating – in 88.6%. The majority of the disabled in the study had households with a bathroom (93.3%) and toilet (92.2%). As many as 83.6% of the total number of respondents had a telephone at their disposal – Tab. 1.

Causes of disability

According to commonly adopted simple principles, the causes of disability were divided into 3 groups, i.e. disease, injury, genetic or congenital defect. This variable was considered in all health, social and demographic characteristics selected for analyses.

Dominated persons who were disabled due to diseases, mainly chronic (80.9%), females more often than males – 84.8% and 75.9%, respectively. Here, a highly significant risk factor was age. The lowest percentage was noted in the group of the youngest disabled (57.7%), whereas respondents in the remaining age groups were equally often exposed to this cause of disability (p<0.00001). Respondents living in larger cities (84.1%) and in rural areas (82.1%) were more frequently disabled because of a disease, compared to inhabitants of smaller cities (76.1%). Respondents who were never married were in the most favourable situation in this respect (61.9%), while persons in the remaining categories of marital status were disabled due to a disease equally often (p<0.00001). No significant differences were found according to the level of education and the occupation performed. However, significant differences concerning the cause of disability were noted according to the duration of employment. A disease was the cause of disability in 91.3% of respondents who had a long period of employment (≥20), and among 65.3% of those with a shorter work experience (<20) – 65.3%. The disabled in this category of causes of disability most often maintained themselves on an agricultural allowance (89.6%), retirement pension (89.6%), and work in agriculture (84.0%). Considering a disease as the cause of disability no differences were observed according to the number of persons living in the same dwelling. The majority of these respondents evaluated their material standard in positive terms. There was a weak or no relationship according to such characteristics as the number of rooms in a dwelling, and availability of such facilities as running water, gas, and central heating.

Injuries occupied the second position among the causes of disability according to the frequency of occurrence (14.9%). This cause of disability was twice as frequent among males (20.0%) and those living in smaller towns (21.0%), and nearly three times as frequent among respondents from the youngest age group (30.8%). Analysis according to marital status showed that this cause of body dysfunction most often concerned respondents in the category never married (23.0%). The percentage of respondents disabled due to injury was even four times higher (27.7%) in a group with a shorter work experience than in those with long duration of employment (6.7%). Persons who sustained injuries most frequently maintained themselves on disability allowance (40.6%), and more frequently worked outside agriculture (15.8%), compared to the groups with other causes of disability.

Consequences of disability due to genetic/congenital defect concerned 4.1% of the total number of respondents, equally frequently males and females. The youngest respondents experienced this cause of disability nearly four times more often (11.5%); more frequently persons living in larger cities (5.1%) and in rural areas (4.3%); those who were never married (15.0%), and with a shorter work experience. Respondents with this type of dysfunction most often maintained themselves on a disability allowance (64.3%). Self-reported material standard was in this group more frequently associated with negative assessment: very poor (10.7%). It was also confirmed that respondents in this group of causes of disability most often lived in dwellings without access to gas (71.4%) and frequently – without central heating (21.4%) – Tab. 2.

Respondents according to disability status

The examined population consisted of two subpopulations. The first subpopulation included persons with a legal decision concerning disability, confirmed by the district team for certification of disability, one of the three grades of disability, i.e. severe, moderate, and mild – 65.8%. The other subpopulation were the disabled who conducted self-certification, which was based on objective information obtained from personal medical records – 34.2%.

Table 2. Causes of disability according to demographic and social data

Variable	Category	Disease		Injury		Congenital defect		Sig.
		N	Row %	N	Row %	N	Row %	
Gender	Males	224	75.9	59	20.0	12	4.1	**0.005**
	Females	323	84.8	42	11.0	16	4.2	
Age	< 50 yrs	60	57.7	32	30.8	12	11.5	**p < 0.00001**
	50-64 yrs	202	83.5	32	13.2	8	3.3	
	65-79 yrs	203	86.4	25	10.6	7	3.0	
	80 yrs and older	82	86.3	12	12.6	1	1.1	
Place of residence	Rural area	211	82.1	35	13.6	11	4.3	**0.041**
	City with population up to 100,000 inhabitants	156	76.1	43	21.0	6	2.9	
	City with population exceeding 100,000 inhabitants	180	84.1	23	10.7	11	5.1	
Marital status	Never married	70	61.9	26	23.0	17	15.0	**p < 0.00001**
	Married	231	84.6	37	13.6	5	1.8	
	Divorced/Separated	51	83.6	10	16.4	0	0.0	
	Widowed	195	85.2	28	12.2	6	2.6	
Education level	Primary	211	82.7	30	11.8	14	5.5	0.176
	Vocational	126	79.2	25	15.7	8	5.0	
	Secondary	144	77.8	36	19.5	5	2.7	
	Higher	66	85.7	10	13.0	1	1.3	
Occupation	Workers/farmers	34	75.6	9	20.0	2	4.4	0.691
	Specialists, office workers, technicians	37	78.7	9	19.1	1	2.1	
	Non-working	476	81.5	83	14.2	25	4.3	
Duration of employment	20 years or less	66	65.3	28	27.7	7	6.9	**p < 0.00001**
	over 20 years	178	91.3	13	6.7	4	2.1	
Source of maintenance	agricultural work	21	3.8[x]	3	3.0[x]	1	3.6[x]	**0.00024[a]**
	non-agricultural work	50	9.1[x]	16	15.8[x]	2	7.1[x]	
	agricultural health benefit	69	12.6[x]	8	7.9[x]	0	0.0[x]	
	retirement pension	198	36.2[x]	20	19.8[x]	4	14.3[x]	
	disability allowance	171	31.3[x]	41	40.6[x]	18	64.3[x]	
	non-earned sources/dependent on others	38	6.9[x]	13	12.9[x]	3	10.7[x]	
Number of persons who share accommodation with respondent	Living alone	110	84.0	15	11.5	6	4.6	0.877
	Living with 1 person	182	80.5	34	15.0	10	4.4	
	Living with 2 persons	98	77.8	22	17.5	6	4.8	
	Living with 3 persons	70	79.5	16	18.2	2	2.3	
	Living with 4 persons or more	87	82.9	14	13.3	4	3.8	
Material standard	very good	20	3.7[x]	4	4.0[x]	3	10.7[x]	**0.015[b]**
	good	194	35.5[x]	39	38.6[x]	5	17.9[x]	
	mediocre	228	41.7[x]	33	32.7[x]	9	32.1[x]	
	poor	94	17.2[x]	22	21.8[x]	8	28.6[x]	
	very poor	11	2.0[x]	3	3.0[x]	3	10.7[x]	
Housing conditions	very good	68	85.0	9	11.3	3	3.8	**0.007[c]**
	good	284	83.3	50	14.7	7	2.1	
	mediocre	166	79.0	29	13.8	15	7.1	
	poor	22	59.5	12	32.4	3	8.1	
	very poor	7	87.5	1	12.5	0	0.0	
Number of rooms in a dwelling	1-2 rooms	172	77.1	39	17.5	12	5.4	0.337
	3-4 rooms	235	82.2	43	15.0	8	2.8	
	5 rooms or more	100	84.7	14	11.9	4	3.4	
Running water	No	22	4.0[x]	4	4.0[x]	1	3.6[x]	0.993
	Yes	525	96.0[x]	97	96.0[x]	27	96.4[x]	
Toilet	No	43	7.9[x]	8	7.9[x]	2	7.1[x]	0.990
	Yes	504	92.1[x]	93	92.1[x]	26	92.9[x]	
Bathroom	No	37	6.8[x]	7	6.9[x]	1	3.6[x]	0.798
	Yes	510	93.2[x]	94	93.1[x]	27	96.4[x]	
Gas supply	No	240	43.9[x]	47	46.5[x]	20	71.4[x]	**0.016**
	Yes	307	56.1[x]	54	53.5[x]	8	28.6[x]	
Central heating	No	54	9.9[x]	17	16.8[x]	6	21.4[x]	**0.030**
	Yes	493	90.1[x]	84	83.2[x]	22	78.6[x]	
Telephone	No	89	16.3[x]	18	17.8[x]	4	14.3[x]	0.884
	Yes	458	83.7[x]	83	82.2[x]	24	85.7[x]	

[x] Column %.
[a] 5 cells (27.8%) have expected count less than 5. The minimum expected count is 1.04.
[b] 4 cells (26.7%) have expected count less than 5. The minimum expected count is .70.
[c] 4 cells (26.7%) have expected count less than 5. The minimum expected count is .33.

Table 3. Causes of disability, including categories of combined causes according to the legal disability status (legally and biologically disabled)

Variable	Category	Legal disability status						Sig.
		No		Yes		Total		
		N	Column %	N	Column %	N	Column %	
Total		231	34.2[x]	445	65.8[x]	676	100.0	
Cause of disability 6	Disease alone	196	84.8	351	78.9	547	80.9	0.150[a]
	Injury alone	20	8.7	35	7.9	55	8.1	
	Congenital defect alone	2	0.9	15	3.4	17	2.5	
	Disease and injury	11	4.8	35	7.9	46	6.8	
	Disease and congenital defect	1	0.4	6	1.3	7	1.0	
	Injury and congenital defect	1	0.4	3	0.7	4	0.6	
Cause of disability	Single cause	218	94.4	401	90.1	619	91.6	0.059
	Combined causes	13	5.6	44	9.9	57	8.4	
Cause of disability	Disease	196	84.8	351	78.9	547	80.9	**0.047**
	Injury	31	13.4	70	15.7	101	14.9	
	Congenital defect	4	1.7	24	5.4	28	4.1	
Cause of disability	Disease	196	84.8	351	78.9	547	80.9	0.061
	Injury/Congenital defect	35	15.2	94	21.1	129	19.1	

[x] Row %.
[a] More than 20% of cells in this sub-table have expected cell counts less than 5. Chi-square results may be invalid

Analysis of data according to the legal disability status demonstrated that among both the respondents with legally confirmed disability and those without such a document the main cause of disability were diseases, slightly more often among biologically than legally disabled – 84.8% and 78.9%, respectively. The consequences of injuries, as the cause of various body dysfunctions only slightly more often concerned legally disabled (15.7%), compared to biologically disabled (13.4%). Although genetic and/or congenital defects were experienced by smaller groups of respondents, in the subpopulation of legally disabled they were more than three times as frequent (5.4%) than among the biologically disabled (1.7%) – Tab. 3.

It was found that among the total number of respondents in 57 (8.5%) there occurred combined causes of disability, i.e. multiple disabilities, in the course of which at least two causes of body dysfunction were diagnosed. Apart from a disease, which occurred independently as a cause of disability (547 – 80.9%), these were: disease and injury – 46 (6.8%), disease and congenital defect – 7 (1.0%), as well as injury and congenital defect – 4 (0.6%). All the above-mentioned causes were relatively more frequently observed in legally disabled persons – Tab. 3.

In individual groups no differences in the percentages of the legally disabled were observed according to gender. Also, no differences in disability status were found according to age. In turn, significant differences were found according to the place of residence. The percentage of the legally disabled was lower in rural (58.4%) than urban areas; in smaller and larger cities the percentage of these legally disabled was more than double than that of the biologically disabled – 67.8% and 72.9, respectively. Differences between these two subpopulations were also noted according to the causes of disability. In the group with genetic/congenital defects the percentage of the legally disabled (85.7%) was considerably higher than in groups where the cause of disability was a disease or injury – 64.2% and 69.3%, respectively – Tab. 4.

Table 4. The disabled in the study according to legal status, with consideration of gender, age, place of residence, and cause of disability

Variable	Category	No		Yes		Sig.
		n	Row%	n	Row%	
Total		231	34.2	445	65.8	
Gender,	Males	93	31.5	202	68.5	0.202
	Females	138	36.2	243	63.8	
Age	< 50 yrs	36	34.6	68	65.4	0.460
	50-64 yrs	75	31.0	167	69.0	
	65-79 yrs	82	34.9	153	65.1	
	80 yrs and older	38	40.0	57	60.0	
Place of residence	Rural area	107	41.6	150	58.4	**0.003**
	City with population up to 100,000 inhabitants	66	32.2	139	67.8	
	City with population exceeding 100,000 inhabitants	58	27.1	156	72.9	
Cause of disability	Disease	196	35.8	351	64.2	
	Injury	31	30.7	70	69.3	**0.047**
	Congenital defect	4	14.3	24	85.7	

Legal disability status – grades of disability

According to the Polish regulations concerning making the decision about one of the three grades of disability, such a decision had 65.8% (445) of the total number of respondents – Tab. 4. Nearly a half of the legally disabled were ascribed the severe grade of disability (49.0%), males nearly as often as females.

The subsequent groups were respondents who had a decision concerning the second, mediocre grade of disability (38.9%), males more often than females. The third group with the lowest percentage of respondents (12.1%) included those with the lowest grade of disability – mild, also with a slightly higher percentage of males. No significant differences in the percentages of respondents with individual grades of disability were observed according to gender, age, and place of residence – Tab. 5.

Table 5. Legal decision concerning three grades of disability, with consideration of gender, age, and place of residence

Variable	Category	Mild		Moderate		Severe		Sig.
		N	Row %	N	Row %	N	Row %	
Total		54	12.1	173	38.9	218	49.0	-
Gender	Males	19	9.4	86	42.6	97	48.0	0.162
	Females	35	14.4	87	35.8	121	49.8	
Age	< 50 yrs	8	11.8	28	41.2	32	47.1	0.060
	50-64 yrs	23	13.8	67	40.1	77	46.1	
	65-79 yrs	19	12.4	65	42.5	69	45.1	
	80 yrs and older	4	7.0	13	22.8	40	70.2	
Place of residence	Rural area	21	14.0	64	42.7	65	43.3	0.075
	City with population up to 100,000 inhabitants	18	12.9	59	42.4	62	44.6	
	City with population exceeding 100,000 inhabitants	15	9.6	50	32.1	91	58.3	

Table 6. Causes of disability including categories of combined causes with consideration of the grade of disability

Variable	Category	Degree of disability								Sig.
		Mild		Moderate		Severe		Total		
		N	Col. %	N	Col. %	N	Col. %	N	Col. %	
Total		54	100.0	173	100.0	218	100.0	445	100.0	
Cause of disability	Disease alone	50	92.6	142	82.1	159	72.9	351	78.9	**0.034**[a]
	Injury alone	1	1.9	13	7.5	21	9.6	35	7.9	
	Congenital defect alone	3	5.6	2	1.2	10	4.6	15	3.4	
	Disease and injury	0	0.0	14	8.1	21	9.6	35	7.9	
	Disease and congenital defect	0	0.0	2	1.2	4	1.8	6	1.3	
	Injury and congenital defect	0	0.0	0	0.0	3	1.4	3	0.7	
Cause of disability	Single cause	54	100.0	157	90.8	190	87.2	401	90.1	**0.017**
	Combined causes	0	0.0	16	9.2	28	12.8	44	9.9	
Cause of disability	Disease alone	50	92.6	142	82.1	159	72.9	351	78.9	**0.003**
	Injury	1	1.9	27	15.6	42	19.3	70	15.7	
	Congenital defect	3	5.6	4	2.3	17	7.8	24	5.4	
Cause of disability	Disease alone	50	92.6	142	82.1	159	72.9	351	78.9	**0.003**
	Injury/Congenital defect	4	7.4	31	17.9	59	27.1	94	21.1	

[a] 9 cells (50.0%) have expected count less than 5. The minimum expected count is .36

Differences were observed between the percentages of individual causes of disability according to the grade of disability. The more severe the grade of disability, the lower the percentage of respondents who were disabled due to a disease (mild – 92.6%, moderate – 82.1%, severe – 72.9%). In turn, an opposite situation was noted in the case of injury. Each higher grade of disability was burdened with a higher percentage of persons, whose disability was the consequence of injury, disease and injury, and disease and genetic/congenital defect. This is especially well documented in the division of the causes of disability into two groups, i.e. diseases, and injuries and congenital defects (mild – 7.4%, moderate – 17.9%, severe – 27.1%) – Tab. 6.

Treatment in sanatorium conditions

High effectiveness of sanatorium treatment is translated into improvement of the quality of life of a disabled person. A half of the respondents (50.7%) never received treatment in sanatorium conditions, 20.9% – only once, while 28.4% – twice and more often.

Among respondents who never used sanatorium treatment and those who stayed in a sanatorium only once the percentages of males and females were similar. In turn, among persons who stayed in a sanatorium many times the percentage of females was nearly twice as high as that of males – 64.6% and 35.4%, respectively ($p = 0.021$). No differences in the use of sanatorium treatment were found according to age. Significant differences in the frequency of stays in a sanatorium were found according to the place of residence ($p < 0.0001$). Among respondents who had never stayed in a sanatorium rural inhabitants constituted 46.9%, whereas inhabitants of smaller and larger cities – 27.1% and 25.9%, respectively. In the group of respondents who stayed in a sanatorium twice or more often rural inhabitants constituted 27.1%, while inhabitants of smaller and larger cities – 33.9% and 39.1%, respectively.

Significant differences were also observed according to the level of education. In the group of respondents who never received sanatorium treatment the percentage of the disabled in lower categories of education (primary vocational and primary school) was considerably higher. In turn, in the subpopulation of respondents who used sanatorium treatment many times the percentage of those with higher education categories (secondary school, higher education) was significantly higher.

Table 7. Number of stays in a sanatorium with consideration of gender, age, place of residence, level of education, material standard, legal disability status, and causes of disability

Variable	Category	No stays		1 stay		2 or more stays		Sig.
		N	Col. %	N	Col. %	N	Col. %	
Total		343	50.7[A]	141	20.9[A]	192	28.4[A]	-
Gender	Males	158	46.1	69	48.9	68	35.4	**0.021**
	Females	185	53.9	72	51.1	124	64.6	
Age	< 50 yrs	63	18.4	18	12.8	23	12.0	0.440
	50–64 yrs	119	34.7	53	37.6	70	36.5	
	65–79 yrs	113	32.9	48	34.0	74	38.5	
	80 yrs and older	48	14.0	22	15.6	25	13.0	
Place of residence	Rural area	161	46.9	44	31.2	52	27.1	**p < 0.0001**
	City with population up to 100,000 inhabitants	93	27.1	47	33.3	65	33.9	
	City with population exceeding 100,000 inhabitants	89	25.9	50	35.5	75	39.1	
Education	Primary	137	39.9	54	38.3	64	33.3	**0.009**
	Primary vocational	94	27.4	30	21.3	35	18.2	
	Secondary	83	24.2	42	29.8	60	31.3	
	Higher	29	8.5	15	10.6	33	17.2	
Material standard	Very good/Good	137	39.9	56	39.7	72	37.5	0.908
	Mediocre	134	39.1	59	41.8	77	40.1	
	Poor/Very poor	72	21.0	26	18.4	43	22.4	
Legal disability status	No	139	40.5	47	33.3	45	23.4	**0.0003**
	Yes	204	59.5	94	66.7	147	76.6	
Cause of disability	Disease	272	79.3	119	84.4	156	81.3	0.284
	Injury	56	16.3	20	14.2	25	13.0	
	Congenital defect	15	4.4	2	1.4	11	5.7	

[A]Row %.

Respondents who stayed in a sanatorium only once did not differ according to the level of education. The frequency of using sanatorium treatment by the disabled did not depend on their material standard. However, the legal disability status was significant. Among respondents who did not use sanatorium treatment there were 40% of the biologically disabled (without legally confirmed grade of disability) and 59.5% of the legally disabled, whereas among persons who stayed in a sanatorium many times biologically or legally disabled constituted 23.4% and 76.6%, respectively – Tab. 7.

Self-reported state of health

Self-reported state of health was considered in the study as an important and reliable measure of the state of health, as well as a predictor of mortality, especially among the elderly. All the respondents assessed their own state of health according to a 5-point scale. Due to the low percentage of persons who evaluated their state of health in extreme categories, i.e. as very good (7.0%) and very poor (0.7%), these categories were combined with those of a lower degree of intensity, i.e. good and poor. Consequently, a 3-point scale was adopted for further analysis.

The highest percentage of respondents evaluated their state of health as poor/very poor (43.5%), females more often, compared to males – 47.5% and 38.3%, respectively. This category of evaluation was considerably more often expressed by respondents aged 65 and over, and those who lived in rural areas. No differences in evaluations of own state of health were found according to the cause of disability and legal disability status.

The second, slightly smaller group were respondents who evaluated their state of health as mediocre (42.3%), males more often than females – 45.1% and 40.2%, respectively. These were clearly more often persons aged 50–64 and <50, whose disability was the effect of a disease, and more frequently the respondents without legal decision concerning the grade of disability.

The percentage of respondents who evaluated their state of health in positive terms – very good/good (14.2%) was three times lower. These were more often males (16.6%) than females (12.3%), persons from the youngest age group (29.8%), and those disabled due to injury (22.8%) – Tab. 8.

Feeling of being disabled

Disability is the state with equivocal aspects, in both health and social domains. The disabled, irrespective of the cause of body dysfunction, grade of disability, legal disability status, or self-reported state of health, did not always perceive themselves as being disabled. The majority of the respondents in the study had a feeling of being disabled 86.7%, whereas the reminder provided a negative answer (13.3%).

In the subpopulation of respondents who did not identify themselves as a disabled person there was a higher percentage of males, persons from the youngest age group, and those living in larger cities. The characteristic of the level of education is especially noteworthy. Such an attitude was more then three times as frequently adopted by respondents who had higher education, compared to those with the lowest level of education – $p<0.00004$. Also, the respondents who evaluated their material standard in positive terms ($p<0.001$)

Table 8. Self-reported state of health with consideration of gender, age, place of residence, legal disability status and cause of disability

Variable	Category	Very good/Good		Mediocre		Poor/Very poor		Sig.
		N	Row %	N	Row %	N	Row %	
Total		96	14.2	286	42.3	294	43.5	-
Gender	Males	49	16.6	133	45.1	113	38.3	**0.042**
	Females	47	12.3	153	40.2	181	47.5	
Age	< 50 yrs	31	29.8	46	44.2	27	26.0	**p < 0.0001**
	50-64 yrs	30	12.4	118	48.8	94	38.8	
	65-79 yrs	26	11.1	87	37.0	122	51.9	
	80 yrs and older	9	9.5	35	36.8	51	53.7	
Place of residence	Rural area	26	10.1	106	41.2	125	48.6	0.093
	City with population up to 100,000 inhabitants	34	16.6	85	41.5	86	42.0	
	City with population exceeding 100,000 inhabitants	36	16.8	95	44.4	83	38.8	
Legal disability status	No	38	16.5	106	45.9	87	37.7	0.080
	Yes	58	13.0	180	40.4	207	46.5	
Cause of disability	Disease	68	12.4	243	44.4	236	43.1	**0.038**
	Injury	23	22.8	32	31.7	46	45.5	
	Congenital defect	5	17.9	11	39.3	12	42.9	
Cause of disability	Disease	68	12.4	243	44.4	236	43.1	**0.009**
	Injury/Congenital defect	28	21.7	43	33.3	58	45.0	

Table 9. Feeling of being disabled with consideration of gender, age, place of residence, level of education, material standard, legal disability status, and cause of disability

Variable	Category	Yes		No		Sig.
		N	Row %	N	Row %	
Total		586	86.7	90	13.3	-
Gender	Males	248	84.1	47	15.9	0.078
	Females	338	88.7	43	11.3	
Age	< 50 yrs	82	78.8	22	21.2	0.065
	50-64 yrs	210	86.8	32	13.2	
	65-79 yrs	209	88.9	26	11.1	
	80 yrs and older	85	89.5	10	10.5	
Place of residence	Rural area	227	88.3	30	11.7	0.387
	City with population up to 100,000 inhabitants	179	87.3	26	12.7	
	City with population exceeding 100,000 inhabitants	180	84.1	34	15.9	
Education level	primary	235	92.2	20	7.8	**0.00004**
	vocational	142	89.3	17	10.7	
	secondary	153	82.7	32	17.3	
	higher	56	72.7	21	27.3	
Material standard	Very good/Good	216	81.5	49	18.5	**0.001**
	Mediocre	236	87.4	34	12.6	
	Poor/Very poor	134	95.0	7	5.0	
Legal disability status	No	186	80.5	45	19.5	**0.001**
	Yes	400	89.9	45	10.1	
Cause of disability	Disease	476	87.0	71	13.0	0.357
	Injury	84	83.2	17	16.8	
	Congenital defect	26	92.9	2	7.1	

and those without legal decision concerning disability ($p<0.001$) significantly more often rejected the fact of being disabled – Tab. 9.

DISCUSSION

In each society there functions a specified group of the disabled. In the majority of countries of the Organization for Economic Co-operation and Development (OECD) the disability indicators are considerably higher among persons with a lower level of education, living outside urban areas, and among females [11]. Due to the changing character of the phenomenon of disability, from both quantitative and qualitative aspects, there is almost no possibility to determine the actual size of this population group. Problems related with this are often a consequence of application of various qualification criteria. Therefore, in many countries, including Poland, estimation data are most frequently provided. They depend on the type of definition of a disabled person, legal regulations of qualification into the group of the disabled, methods of collection and classification of data, and the adopted unified scores concerning self-assessment of the disability status. The percentage of the disabled in the populations of individual countries reach from several, or more than a dozen percent up to one fifth of the total population [1, 4]. S. Bindawas et al. estimated the percentage of these persons from 1% – 30% [12]. In general, in 2008, in the European Union countries, this was 24.9% of the total population, in 2009 – 25.5%, while in 2016 – 26.0% Worldwide this is approximately a billion, which is 15.2% of the global population [13, 14]. In Poland, the disabled constitute between 12 – 14% of the general population [7]. According to the data by the United Nations Development Programme (WHO) 80% of the disabled live in the developing countries [11, 12].

In the examined population the percentage of females was higher than that of males (56.4%). These results are consistent with a study of the young disabled conducted by J. Rzempowska et al., (53.9%), all-Polish study of the state of rural population by I.D. Karwat (52.5%) and reports carried out by the Central Statistical Office (GUS) – 54.4% [7, 14,

15]. It was demonstrated that among rural inhabitants the number of the disabled in younger age groups was higher than in urban areas. Previously published studies showed that higher age categories were associated with a higher risk of disability [16, 17, 18].

The largest group of respondents had primary school education (37.7%) which, compared to the structure of education in the Polish population means a considerably higher level than the average. Among the total number of the disabled 11.4% had higher education, whereas in 2008 this education level was achieved by only 6% of the disabled. In the general population the percentage of persons who had higher education was 17%, while 49% had education level lower than secondary school [19, 20]. Similar results were published in the report prepared on order by the State Fund for the Rehabilitation of the Disabled (PFRON), where the percentage of persons with junior high school and primary education among the able-bodied was 24.4%, while among the disabled – 38.1% [17]. The study by J. Rzempowska et al. showed that the respondents were characterized not only by a low level of education, but also low levels of income and occupational activity [15]. In the area of education disproportions were clearly observed between the disabled living in large cities, and in rural areas or small localities [19,21]. The data by the OECD Secretariat demonstrate that in the countries of the Organization for Economic Co-operation and Development (OECD) disability indicators are considerably higher among persons with a low level of education [11, 22].

Housing conditions are, among other things, another important element of the assessment of the quality of life of all the disabled, especially those with locomotor system dysfunctions. The examined disabled evaluated these conditions in relatively high terms, a half of them evaluated them as good (50.4%), and 31.1% – as mediocre. According to a study by the National Census the disabled placed these needs at the bottom of the list of their needs. More important were the needs for rehabilitation, education, social integration, occupational activity, communication and information [19]. A. Siedlecka and A. Smażewska confirmed that considering usable floor space housing conditions were better in the case of the disabled living in rural areas [23].

The number of persons living together in one dwelling is of great importance in the daily functioning of the disabled. Nearly one-fifth lived alone. The data from 2011 National Census showed that 16.0% of the disabled lived alone, while in the general population such persons constituted 23.0% [8]. In the study by J. Rzempowska the persons who lived alone constituted 2.3% of the total number of the persons examined, mainly in the oldest age group, equally often males and females [15]. In many people who live alone the Diogenes syndrome is diagnosed, especially at older age [24].

The most frequent cause of disability of respondents in the study was a disease. Similar results were obtained by other researchers in Poland [4, 5, 17, 25] and abroad [26, 27, 28].

Legal disability status is very important in the assessment of the functioning of a disabled person in both health and social domains. The majority of the respondents had a legal decision concerning disability (65.8%), as many as 87.9% of them were disabled to a severe or mediocre degree, which means that the level of health and social needs is high. The data obtained from the 2011 National Census in Poland showed that persons with severe disability occupied the second place [29].

In the system of treatment and rehabilitation, sanatorium treatment is very beneficial. Only a half of the total number of respondents had an opportunity to use services in these facilities. The Report by the Team for Development of Changes in the System of Sanatorium Treatment in Poland demonstrated that there is a need for adjusting currently functioning system to the actual health needs and demographic trends. The primary aim is the provision of continuity and complexity of treatment using the principles of full rehabilitation process or its stages [30]. A study by A. Jurczak et al. demonstrated that 48.3% of respondents with locomotor system dysfunctions reported that limitations in playing social roles due to physical health decreased as a result of sanatorium treatment. A similar number of the disabled mentioned that they less frequently experienced problems in the emotional sphere [31]. The effects of sanatorium treatment provide an opportunity to consolidate the ongoing treatment, decrease the risk of dependence, reduce the number of re-hospitalizations, prevent secondary disability, and enable higher occupational activity [32].

The element of self-assessment has long been underestimated in the evaluation of the state of health. Self-assessment of the state of health is one of the factors which, to a great extent, specify an overall life situation of the examined person, in both the health and social spheres. A large group of the disabled evaluated their state of health in negative terms – poor and very poor (43.5%), and a similar group – in poorly satisfactory terms – mediocre (42.3%). These evaluations were significantly more frequently expressed by females, persons aged over 65, those legally disabled, and the persons with body dysfunctions due to injuries, and genetic/congenital defects. Other studies show that 53.7% of respondents with acquired disability evaluated their state of health in negative terms [33]. The WHO experts recommend considering in research, mainly in population studies, questions concerning self-assessment of the state of health, despite the fact that this is a subjective assessment. Many studies demonstrate that the use of knowledge in this area allows the determination of the social determinants of the state of health. W. Wróblewska emphasized the mediatory role of education in the assessment of the health status, with respect to other social determinants [34]. Among persons with a low education level, economic difficulties, occurrence of disability, and work on a farm occurred to be of great importance for negative assessments of health and their cumulation [35]. G.J. Nowicki et al. also emphasize age over 65, marital status, perception of pain, low physical fitness, and type of occupation performed in the past [33]. Other studies demonstrate that there is a relationship between the assessment of health and the risk of occurrence of death, especially among the elderly, males, and persons taking pharmaceuticals [28]. E. Dziankowska-Zaborszczyk, based on an eight-year observation confirmed that in the disabled evaluating their state of health as mediocre (neither good nor poor) the occurrence of the risk of death was by 33% higher than among respondents who evaluated their health status as good [36].

Irrespective of the legal disability status, i.e. legal and biological disability, personal acceptance of the state of disability is of great importance in the daily functioning of a disabled person. Among the total number of respondents, 13.3% did not perceive themselves of as disabled persons. This fact twice as often concerned the biologically disabled (19.5%) than legally disabled (10,1%). Most frequently these

were people with a higher level of education, better material standard, who evaluated their state of health in the positive categories. A study by I.D. Karwat et al. conducted in 2009 in a group of 230 disabled indicated that the declarations of this type were more often expressed by respondents from the group of the biologically disabled (22.0%), compared to the legally disabled (14.0%). In both situations this opinion concerned rural inhabitants [7]. P. Borowiecki et al. emphasized that such divergent opinions result from many causes, mainly of the social character. These are types of causes of disability and the effects of disability in the form of various limitations, duration of disability, living in a rural area, lack of participation in rehabilitation, and lack of employment. In this respect attitudes of healthy persons towards the disabled, and various forms of discrimination are of great importance [37, 38], because disability is not the problem of a given individual, but a social problem [22]. The multifactorial concept has emerged as an alternative to the medical concept. Its followers emphasized the fact that disability is not so much a medical problem, but a social problem [38, 39, 40]. Disability is not a characteristic of an individual, but a complex set of states, many of them formed by the social environment. Therefore, their management requires social actions, and on the society as a whole rests a collective responsibility for the modification of the environment, which is necessary for full participation of the disabled in all spheres of social life. Thus, the problem remains in the domain of attitudes of ideologies, and requires social changes, whereas on a political level this is the issue of human rights. The Report presented by the UN states that the disabled have not yet been sufficiently considered in the pursuit, monitoring, and evaluation of the goals of sustainable development [41].

CONCLUSIONS

1. The study population (676 respondents) consisted of two subpopulations, according to the legal disability status, i.e. so-called legally disabled (65.8%) and biologically disabled (34.2%).
2. Based on the demographic and social characteristics it was confirmed that: in the examined population the percentage of females was higher than that of males – 56.4% and 43.6%, respectively. Rural inhabitants constituted 38.0% of the total number of the disabled in the study; dominated persons aged 50–64 (35.8%) and 65–79 (34.8%), those with the lowest level of education (37.7%), maintaining themselves on retirement pension (34.0%) and disability allowance (32.8%), respondents living with one person (33.4%) and alone (19.4%); who evaluated their material status as mediocre (39.9%), housing conditions as good (50.4%), with the number of rooms in their dwelling being 3–4 (45.6%).
3. Based on health characteristics and difficult to separate health and social problems it was confirmed that the main cause of disability was a disease (80.9%). This more frequently concerned females, the elderly, respondents living in larger cities and in rural areas, with higher and primary education, and duration of employment over 20 years. Disability due to injuries concerned 14.9% of respondents, more often males, persons in the youngest age group, inhabitants of smaller towns, never-married, with secondary school level of education and the period of employment less than 20 years. Genetic/congenital defects were most frequently the cause of disability in the youngest group of respondents, living in larger cities, never-married, with low education level, and short period of occupational activity. The legally disabled were most often urban inhabitants, whereas the biologically disabled – rural inhabitants. A half of respondents did not use sanatorium treatment, more often males, rural inhabitants, with a lower level of education. As many as 43.5% of the total number of respondents evaluated their state of health in negative terms, more frequently females, respondents in older age categories, and those legally disabled. Despite the fact that all the disabled satisfied the conditions of qualification into the study group, 13.3% of them reported that they did not perceive themselves as being disabled.
4. The presented analyses of demographic and social characteristics of the examined population shows that it is necessary to consider these characteristics in studies aimed at levelling-up health inequalities between the disabled and those able-bodied. The needs resulting from disability should be diagnosed simultaneously with the diagnosis of barriers and risks inherent in the social, family, and occupational situation. Effective solving of these problems in the life environment prevents secondary disability, improves the quality of life of the disabled with any cause of body dysfunction, and enables these persons full participation in social life, which is one of the elements of sustainable development.

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