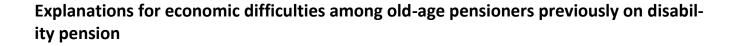
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Abstract

Background: This study looks at how previous disability retirement is associated with economic difficulties in covering the costs of everyday basic necessities in old age, and the extent to which the differences in economic difficulties between old-age pensioners with previous disability pension and other old-age pensioners are mediated by health, income and life satisfaction.

Methods: The survey data includes 2,227 retirees aged 63–85 who were receiving old-age pension in 2017. A quarter of them had received a disability pension before their old-age pension. Economic difficulties were measured through a subjective assessment of how difficult it was to cover the following necessities: food, housing, medication, health services, transport, phone and internet use. The odds ratios (OR) and their 95%-confidence intervals were analysed with ordered logistic regression models.

Results: Old-age pensioners with previous disability retirement experienced more economic difficulties in covering cost of necessities than other old-age pensioners. The differences were especially large among those with a mental diagnosis. Health, pension income and life satisfaction attenuated the differences slightly. The fully adjusted odds ratio for having economic difficulties in covering the cost of medicine and health care among old-age pensioners with previous disability retirement due to mental disorders was 2.15 (95% CI 1.44-3.22) compared to other old-age pensioners without previous disability retirement.

Conclusions: Preventing disability retirement among working-age people diminishes the risk of economic difficulties in old age. More attention should be focused especially on those with a high risk of disability retirement due to mental disorders.

Keywords: economic difficulties, old-age, disability, mental disorders

Introduction

Early exit from the labour market due to a disability is a major economic and social issue. Disability retirement diminishes years of working life and can negatively affect individuals' income, as their working career ends prematurely. People with a chronic or severe disability usually face a decline in earnings. 1,2 Reduced incomes and long periods of disability may contingently lead disability retirees to face a high risk of economic difficulties.

The association between disability retirement and economic difficulties later in life is a relatively less-studied subject. Earlier studies have found that people who have received disability or sickness benefits have the poorest well-being in old age.^{3,4} Finnish studies have found that disability pensioners have lower incomes^{5,6} and their subjective economic well-being is lower than that of other pensioners.⁷ Especially those who have retired due to a disability at a younger age¹, those who have a mental disorder^{8,9} or have been unemployed before disability retirement⁶ are at a high risk of facing economic difficulties. Earlier studies have mainly focused on incomes or well-being in general; in this study, the primary point of interest is economic difficulties faced by old-age pensioners.

Economic difficulties refer to the self-reported strain of meeting everyday basic necessities. Three specific factors are relevant as potential explanations for more prevalent economic difficulties among those with previous disability retirement: lower income, higher expenses due to costs related to poor health, and a more negative subjective experience of one's life situation. Earlier studies have found a clear association between subjective economic difficulties and incomes. ^{10,11} In Finland, earnings-related disability pension accrues from a person's insured work history, and it also includes the projected pension component that compensates for the loss of income from the time of disability retirement to reaching the old-age retirement age. ¹² Thus, disability retirement does not necessarily mean low pension income if one's earnings were high before the disability. However, if a pensioner retired

young and had low earnings before disability retirement, the individual's pension income may remain low. Disability pensions are converted to old-age pensions of equal amount when one reaches the statutory old-age pension age. In 2017, the average disability pension was 1,100 euros per month, while the average old-age pension was 1,700 euros per month. Furthermore, the premature ending of an individual's working career may reduce savings, which may lead to economic difficulties in old-age.

Secondly, in addition to those with a disability pension background having a lower income, their economic difficulties may also be reflected in higher expenses due to costs related to poor health. Earlier studies^{14,2} have found a strong link between disability or poor health and negative economic consequences over an individual's lifetime. In addition to having limited working possibilities, people with ill health often have relatively high medication and health-care costs.^{15,16} This often brings extra economic pressures, especially for those with lowest incomes. A Finnish study¹⁷ showed that pensioners' use of public social and health care services is highest among young disability retirees and the oldest old-age pensioners.

Thirdly, subjective economic difficulties may reflect generally negative attitudes and poor life satisfaction. Poor life satisfaction has been shown to be associated with economic difficulties and a low income level.¹⁸ Earlier literature shows that people with poor health¹⁸ and those with poor mental health^{19,20} have poorer life satisfaction than others, which may bear significance also for economic difficulties.

Approximately 25 per cent of Finnish old-age pensioners have been on a disability pension before their old-age retirement.⁵ Disability pensions are granted on the grounds of long-term incapacity to work, and the decision is medically defined. The risk of disability retirement increases with age, and disability retirement is most common among those aged 60–64.²¹ Mental health problems are a major single cause of disability retirement in many countries, including Finland²². Disability retirees due to mental disorders are also younger than those who retire due to physical health, and their pensions are usually lower than others.

The aim of this study is to explore difficulties in covering the cost of various necessities (such as food, housing, medicine, health care, transport and phone and internet use) among old-age pensioners with previous disability retirement in Finland. Moreover, we study how pension income, health, and life satisfaction contribute to the differences in economic difficulties between old-age pensioners with or without previous disability retirement. The importance of disability retirement diagnoses is also studied, and separate analyses are conducted for mental disorders and other diseases. This is because we can expect those who have retired due to mental disorders to have greater economic difficulties. Greater economic difficulties among old-age pensioners with previous disability retirement may result from lower incomes, higher costs due to poorer health or subjective experiences that are reflected by lower life satisfaction.

Methods

The study is based on survey data collected by the Finnish Centre for Pensions in 2017. The questionnaire was sent to 4,000 old-age and disability pensioners aged 55–85. The sample was representative of Finnish disability and old-age pensioners aged 55-85. The participants of the study were informed that all responses are handled confidentially and anonymously and that the answers are linked to the register data of the Finnish Centre for Pensions. The response rate was 75 per cent. The data included 2,227 old-age pensioners aged 63–85. The questionnaire included large sets of questions, e.g. about pensioners' subjective economic well-being, incomes, health and life satisfaction. The data was weighted so that the data correspond to the distribution of the target group by age, gender and pension income.⁷

Information on the pensioners' disability pension background was derived from register data from the Finnish Centre for Pensions. Prior to their old-age retirement, 561 old-age pensioners (25 per cent) had been on a disability pension. An old-age pensioner was defined as having a disability pension background if he/she had received a full or partial disability pension or individual early retirement pension before old-age pension. Disability retirement diagnoses were categorised according to the International Classification of Diseases (ICDC-10). We used the

two diagnostic groups: mental and behavioural disorders (F00-F99) and other diseases. Over 20 per cent of oldage pensioners with previous disability retirement had retired due to a mental disorder (N=112).

Subjective economic difficulties

The level of difficulty in covering the cost of basic necessities was measured as follows: How easy or difficult it is for you to cover the cost of 1) "food", 2) "housing" (e.g. rent, remuneration, loans), 3) "medicine", 4) "health care" (e.g. to visit a doctor), 5) "transport use" (public transport, own car, taxi) or 6) "phone and internet use". The response alternatives for each question were 1) "very difficult", 2) "difficult", 3) "somewhat difficult", 4) "quite easy", 5) "easy", 6) "very easy", 7) "I do not use money for this". The answers "very easy" and "I do not use money for this" were combined. Further categorisations included combinations of the following items: 1) food and housing; 2) medicine and health-care services, and 3) transport, phone and internet use. In statistical analyses, the responses were summed up so that the range of answers varied from 2 to 12.

Pension Income

Information on the gross pension income level was obtained from registers. It included the amount of old-age pension per month (from public and private sectors at the end of 2016), but also national and guarantee pension, which supplement low earnings-related pension. The amount of pension can be considered a rather good reflection of a pensioner's working career, since earnings-related pension accrues based on annual earnings and an accrual rate.

Health

Self-rated health was based on the respondents' own estimation of their health. The question was: "Is your present state of health: good, rather good, moderate, rather poor or poor? It was categorised into good (good and rather good), average (moderate) and poor (rather poor, poor).

Life satisfaction

A pensioner's life satisfaction was measured with the question: "How satisfied are you with your life at present?".

The answers were based on a scale from 0 to 10, where 0 means low satisfaction and 10 means high satisfaction.

We classified life satisfaction into three groups: "0–5" low satisfaction, "6–8" average satisfaction and "9–10" high satisfaction. Eurostat uses a similar classification for life satisfaction.¹⁸

Other variables were age, gender, marital status, education and housing tenure.

Statistical analysis

Ordered logistic regression models were used to estimate odds ratios (OR) and their 95% confidence intervals (95% CI) for economic difficulties among old-age pensioners with previous disability retirement and other old-age pensioners. At first, economic difficulties among old-age pensioners with previous disability pension compared with other old-age pensioners were examined (non-adjusted model, model 0). Secondly, age, gender, marital status, education and housing tenure were included in the model (model 1). Furthermore, the contribution of pension income, health, and life satisfaction were studied (models 2-4). The full model included all in the same model (model 5). The analyses were conducted separately for old-age pensioners with previous disability retirement due to mental disorders and other diseases and for other old-age pensioners without previous disability retirement, and also for those old-age pensioners with previous disability retirement due to any cause compared to other old-age pensioners. We checked the multicollinearity of the independent variables. There were no high correlations between these variables, and tests of multicollinearity (VIF values) showed that there exists no multicollinearity.

Results

Old-age pensioners with previous disability retirement experienced more difficulties in covering the cost of food, housing, medicine, health services, transportation, and use of phone and internet than other old-age pensioners (figure 1). The difficulties were emphasized in covering the cost of medical or health-care services, but also in housing and transport costs. In all areas of necessities, old-age pensioners with previous disability retirement due

to mental disorders experienced more economic difficulties than other old-age pensioners without any previous disability retirement. Roughly 5 per cent of them experienced great difficulty in covering the cost of health-care services and 55 per cent of them had at least some difficulties, whereas the corresponding figures for other old-age pensioners without any previous disability retirement were 1 per cent and 25 per cent. The smallest difficulties were in covering the cost of food and phone and internet use, but these figures were also relatively high among old-age pensioners with previous disability retirement due to a mental diagnosis.

Old-age pensioners with previous disability retirement differ from other pensioners. Table 1 shows that they are more likely, e.g., to be in poorer health, to be less educated and to rent more often than other old-age pensioners. They also have lower pension income and life satisfaction. Old-age pensioners with previous disability retirement due to mental disorders are younger, they are more often women, and they are often higher educated than old-age pensioners with previous disability pension due to other diseases.

Table 2 shows how health, pension income and life satisfaction contribute to the differences in economic difficulties between old-age pensioners with and without previous disability retirement. The non-adjusted odds ratio (Model 0) for having difficulties covering the cost of food or housing was 2.34 (95% CI 1.94-2.83) among old-age retirees who had previously received disability pension due to any cause compared to those with no previous disability. The odds ratio for having difficulties covering the cost of medicine or health-care services was 3.03 (95 % CI 2.52-3.65) and for covering the cost of transportation or phone and internet it was 2.50 (95 % CI 2.07-3.01). The risks were even higher among old-age pensioners with previous disability retirement due to mental disorders.

After controlling for age, gender, marital status, education and housing tenure, the odds ratios decreased in all three groups of economic difficulties (Model 1). In models 2 to 4, pension income, health and life satisfaction were added separately to the models. E.g. the odds ratio for having difficulties covering the cost of medicine and health-care services after adjusting pension income (model 2) among old-age retirees with previous disability retirement due to any cause was 2.20 (95% CI 1.82-2.68) and after adjusting health (model 3) and life satisfaction (model 4), the odds ratios were 1.62 (95% CI 1.33-1.98) and 1.97 (95% CI 1.62-2.42). Thus, health seemed to have

the biggest and pension income the smallest contribution in all three models. Also, the odds ratios were the highest among old-age pensioners with previous disability retirement due to mental disorders.

Finally, all factors were added to the model simultaneously (model 5). Small differences between old age pensioners with previous disability retirement due to any cause and other old-age pensioners exists in all three models after adjustment. The highest odds ratios exist among those with previous disability retirement due to mental disorders. For example, the fully adjusted odds ratio for having difficulties covering the cost of medicine and health care among old-age pensioners with previous disability retirement due to mental disorders was 2.15 (95% CI 1.44-3.22) compared to other old-age pensioners without previous disability retirement. Smaller but statistically significant odds ratios for having difficulties covering the cost of food and housing also exist.

Discussion

The main aim of this study was to explore the differences in economic difficulties between old-age pensioners with previous disability retirement and other pensioners, and to determine how health, pension income and life satisfaction contribute to these differences. We also examined economic difficulties among old-age pensioners with previous disability retirement due to mental disorders and other diseases. Our results are in line with previous studies showing that disabled individuals have greater economic difficulties and poorer economic well-being than others. ^{5,7,23} The results show that old-age pensioners with a disability background have more economic difficulties in covering the cost of necessities than those with no previous disability retirement. Old-age pensioners with previous disability retirement due to mental disorders had the most difficulties. Pension income, health and life satisfaction attenuated the differences, but not entirely.

Old-age pensioners with previous disability retirement more often have lower incomes, poorer health and lower life satisfaction than other old-age pensioners. However, when income level, health and life satisfaction were

taken into account, the differences in economic difficulties between these two groups declined. Health seemed to have the highest contribution to the differences in all groups of necessities, especially in covering the costs of medicine and health-care services. This may be because old-age pensioners who are in poor health have more health-related expenses. ²⁴ The higher cost of medicine and health-care services may also weaken pensioners' purchasing power when it comes to other necessities. The significance of pension income to the differences in economic difficulties was smaller than health or life satisfaction in all groups of necessities. One explanation for this might be that pension income does not necessarily reflect a pensioner's whole economic situation, which is also affected by, among other things, household income or wealth. The contribution of life satisfaction was the greatest between those old-age pensioners with previous disability retirement due to mental disorders and those without previous disability retirement. However, life satisfaction did not fully mediate the differences in economic difficulties between old-age pensioners with previous disability due to mental disorders and other old-age pensioners without previous disability retirement, even if the association of life satisfaction and mental health was found to be relatively strong. ¹⁹

Economic difficulties in old age should be understood partly as a result of pre-retirement life circumstances and occurrences during life.^{25,3} People who continue working until old-age retirement are in many ways a very specialised group with relatively good health and high socioeconomic status. Otherwise, those who leave working life involuntarily e.g. via disability retirement, often have poorer health and lower socioeconomic status than those who remain in working life longer.²⁶⁻²⁸ People who end up in disability retirement often come from physically demanding occupations or have had poorer working conditions.²⁹ Thus, previous occurrences in life and living conditions are likely to have an important role in individuals' future economic difficulties.

Methodological considerations

A major advantage of this study is that the economic difficulties are based on self-reported information about a large set of necessities. The data also includes reliable and exact register-based information about the pension income level, old-age pensioners' previous disability retirement history and the causes of disability.

We have reliable and representative survey data on 63–85-year-old Finnish old-age pensioners in 2017, with a very good response rate (75 per cent). To some extent, our analyses are quite restricted, because the sample size was relatively small. For example, old-age pensioners with previous disability retirement were only divided into two diagnostic groups.

Previous disability pensioners were compared to all other groups of old-age pensioners. The reference group thus includes all old-age pensioners with different backgrounds. There are pensioners who have worked or have been partly retired, but those who have also been unemployed before their old-age retirement. This approach may give more moderate results than if we had compared purely those old-age pensioners with previous disability retirement to those who have retired from work.

Conclusions

The results of our study have evident implications. A disability retirement background is associated with subjective economic difficulties in old age and it casts a long shadow over later life. In particular, old-age pensioners with previous disability retirement due to mental disorders are at high risk of facing economic difficulties. Preventing disability retirement among working-age people and focussing more attention on life events and health issues might diminish the risk of economic difficulties in old age.

Health, pension income and life satisfaction as well other sociodemographic factors did not fully explain the differences in economic difficulties between old-age pensioners with and without previous disability retirement.

Therefore, further and more specific studies are needed to determine what other factors may explain these dif-
ferences. Such factors might be, e.g., previous life circumstances, wealth, unemployment history or social support
in old age.

Funding

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Conflict of interests

None declared

Key points:

- The disability retirement background is associated with subjective economic difficulties in old age.
- Old-age pensioners with previous disability retirement due to a mental disorder are at high risk of facing economic difficulties.
- Differences in economic difficulties exist between old-age pensioners with or without previous disability retirement after controlling for health, pension income, life satisfaction and other factors.
- Preventing disability retirement among working-age people diminishes the risk of economic difficulties in old age.

References:
References.
1 Hyde J, Wu A. The Financial Vulnerability of Former Disability Beneficiaries in Retirement. Mathematica Center
for Studying Disability Policy. DRC Brief Number 2017;02.
2 Meyer B, Mok W. Disability, earnings, income and consumption. Journal of Public Economics 2019; 171:51-69.
3 Halleröd B, Örestig J, Stattin M. Leaving the labour market: the impact of exit routes from employment to retire-
ment on health and wellbeing in old age. Eur J Ageing 2013; 10:25-35.
4 Wu A, Hyde J. The Postretirement Well-Being of Workers With Disabilities. Journal of Disability Policy Studies
2018; 1-10.
5 Rantala J, Hietaniemi M, Nyman H, Laaksonen M, Kuivalainen S (Editors). Työkyvyttömyyseläkkeensaajien eläke-
turva ja toimeentulo 2000-luvulla (The pensions and income of disability pension recipients in the 2000s). Eläke-
turvakeskuksen tutkimuksia 2017;04.
6 Rantala J, Gould R. Pienituloisuuden dynamiikka työkyvyttömyyseläkkeelle siirryttäessä. (Poverty dynamics in
the disability retirement process). Yhteiskuntapolitiikka 2015; 80:3

7 Ahonen K, Palomäki LM, Polvinen A. Eläkeläisten toimeentulokokemukset vuonna 2017 (The income experiences of pensioners in 2017). Eläketurvakeskuksen tutkimuksia 2018;03.

8 Hefling C, Iceland J. Poverty, Material Hardship, and Depression. Soc Sci Q 2009; 90:1051-1071.

9 Laaksonen E, Martikainen P, Lallukka T, et al. Economic difficulties and common mental disorders among Finnish and British white-collar employees: the contribution of social and behavioural factors. J Epidemiol Community Health 2009; 63:439-446.

10 Kautto M, Palomäki LM, Rantala J, Tuominen E. Eläkeläisten tulot ja kokemukset toimeentulosta. (Pensioners' income and perceived adequacy of income), Yhteiskuntapolitiikka 2009;74:290-302.

11 Palomäki L.M. Does It Matter How You Retire? Old-age Retirement Routes and Subjective Economic Well-Being. Soc Indic Res 2018;142:733.

12 Finnish Centre for Pensions (ETK). Earnings-related pensions ensure a reasonable consumption level: https://www.etk.fi/en/the-pension-system/pension-security/earnings-related-pension-benefits/. [Accessed 6 February 2019].

13 Finnish Centre for Pensions (ETK). Average pensions: https://www.etk.fi/en/the-pension-system/pension-se-curity/total-income-of-pensioners/average-pensions/ [Accessed 19 March 2019].

14 Mitra S, Palmer M, Kim H, et al. Extra costs of living with a disability: A review and agenda for research. Disability and Health Journal 2017;10:475-484.

15 She P, Livermore G. Material Hardship, Poverty, and Disability Among Working-Age Adults. Social Science Quarterly 2007;4,970-989.

16 Rose R, Parish S, Yoo J. Measuring Material Hardship among the US Population of Women with Disabilities Using Latent Class Analysis. Soc Indic Res 2009; 94:391-415.

17 Vaalavuo M. Sosiaali- ja terveyspalveluiden merkitys eläkeläisten toimeentulolle (The significance of social and health-care services to the income of pensioners). Eläketurvakeskuksen tutkimuksia 2018;02.

18 Eurostat. Quality of life indicators - overall experience of life: https://ec.europa.eu/eurostat/statistics-ex-plained/index.php?title=Quality of life indicators - overall experience of life. [Accessed 10 May 2019].

19 Lombardo P, Jones W, Wang L, et al. The fundamental association between mental health and life satisfaction: results from successive waves of a Canadian national survey. BMC Public Health. 2018; 18:342.

20 Rissanen T, Viinamäki H, Honkalampi K, et al. Long term life dissatisfaction and subsequent major depressive disorder and poor mental health. BMC Psychiatry 2011; 11:140.

21 Finnish Centre for Pensions (ETK) and the Social Insurance Institution of Finland (KELA). Statistical yearbook of pensioners in Finland 2017. Helsinki: ETK and Kela; 2017.

22 OECD. Sickness, disability and work. Breaking the barriers. A synthesis of findings across OECD countries. https://www.oecd-ilibrary.org/docserver/9789264088856-en.pdf?expires=1551113532&id=id&acc-name=oid014601&checksum=953AC763B9C4F46844B6B2F6E4C34929. [Accessed 22 February 2019].

23 Fonseca R, Kapteyn A, Lee J, et al. A Longitudinal Study of Well-being of Older Europeans: Does Retirement Matter? J Popul Agein 2014; 7:21-41.

24 Levy H. Income, Poverty, and Material Hardship Among Older Americans. The Russell Sage Foundation Journal of the Social Sciences 2015;1,55-77.

25 Dannefer D. Cumulative Advantage/Disadvantage and the Life course: Cross-Fertilizing Age and Social Science Theory. Journal of Gerontology 2003; 6:S327-S337.

26 Polvinen A, Laaksonen M, Gould R, et al. The contribution of major diagnostic causes to socioeconomic differences in disability retirement. Scand J Work Environ Health. 2014; 40:353-360.

27 Polvinen A, Laaksonen M, Gould R, et al. Socioeconomic differences in cause-specific disability retirement in Finland, 1988-2009. JOEM 2016; 8;840-845;

28 Schuring M, Robroek S, Ferdy Wj, et al. The effect of ill health and socioeconomic status on labor force exit and re-employment: A prospective study with ten years follow-up in the Netherlands. Scand J Work Environ Health 2013; 39:134-143.

29 Lahelma E, Laaksonen M, Lallukka T, et al. Working conditions as risk factors for disability pension: a longitudinal register linkage study. BMC Public Health 2012; 12:309.

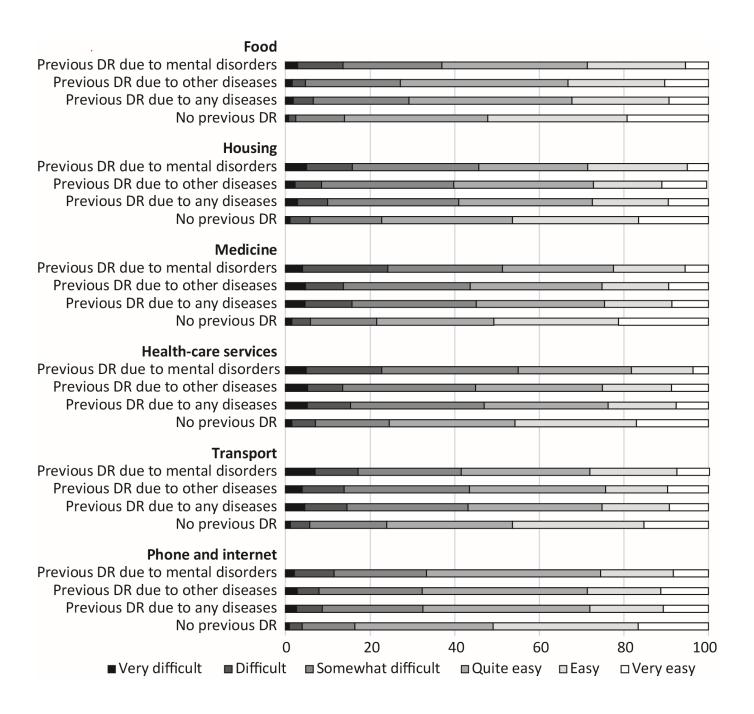


Figure 1. Difficulties in covering the cost of food, housing, medicine, health-care services and use of transportation, phone and internet among old-age pensioners aged 63–85 with or without previous DR, %

Table 1. Descriptive statistics on 63–85-years old-age pensioners according to previous disability retirement status.

	Previous d	No previous disability		
	mental disorders	other diseases	any disease	retirement
A = -	%	%	%	%
Age 63-69	43.0	36.4	37.7	43.5
70-74	30.7	24.3	25.6	43.5 25.4
75-79	15.1	19.5	18.6	19.7
80-85	11.2	19.8	18.1	11.4
Gender				
men	38.6	47.8	46.0	45.6
women	61.4	52.2	54.0	54.4
Marital status				
married/cohabiting	60.4	63.2	62.7	65.7
divorced/widow/unmarried	39.6	36.8	37.4	34.4
Health				
good	23.3	18.7	19.7	53.6
average	46.7	51.9	50.9	36.3
poor	30.0	29.4	29.5	10.0
Education				
primary	45.0	51.0	49.8	36.5
secondary	32.7	38.3	37.2	31.1
lower or higher tertiary	22.3	10.7	13.0	32.4
Housing tenure				
own	68.3	67.2	67.4	79.1
rent	18.3	15.3	15.9	10.2
other	13.4	17.5	16.7	10.7
Pension income €/year				
-1000	23.2	16.8	18.1	13.6
1000-1500	35.5	45.2	43.3	28.3
1500-2000	25.3	21.9	22.6	25.0
2000-2500	7.5	9.4	9.1	14.9
2500-	8.5	6.7	7.1	18.3
Life satisfaction				
high	14.2	13.5	13.6	25.5
average	42.1	57.3	54.4	57.6
low	43.7	29.2	32.0	17.0
N	112	449	561	1666

Table 2. Difficulties in covering the cost of food or housing, medicine or health-care services, transportation or phone and internet among old-age pensioners aged 63–85 according to previous disability retirement (DR) due to mental disorders, other or any diseases. Ordered logistic regression analysis with ORs and 95% confidence intervals. Reference group = no previous disability retirement.

		Mo	odel 0	M	odel 1=	M	odel 2=	Mo	del 3=	М	odel 4=	Мо	del 5=
		IVACIO		(Model 0+age+gender+marital status+ education+ housing)		(Model 1+	pension income)	(Model	1 + health)	(Model 1+	life satisfaction)	Full	model
						(`		(2:: :::: 2:::::::::::::::::::::::::::			
		OR	95 % CI	OR	95 % CI	OR	95 % CI	OR	95 % CI	OR	95 % CI	OR	95 % CI
Food and	housing						·						
	DR due to mental disorders	3.03	1.99-4.61	2.66	1.75-4.04	2.42	1.59-3.67	2.01	1.34-3.01	1.98	1.31-3.02	1.68	1.10-2.57
	DR due to other diseases	2.20	1.80-2.71	1.64	1.32-2.04	1.48	1.18-1.85	1.28	1.03-1.60	1.38	1.10-1.72	1.16	0.93-1.46
	DR due to any disease	2.34	1.94-2.83	1.80	1.47-2.20	1.64	1.35-2.02	1.41	1.15-1.72	1.47	1.20-1.81	1.25	1.01-1.54
Medicine	and health-												
care													
	DR due to mental disorders	4.21	2.87-6.20	3.66	2.47-5.44	3.33	2.27-4.87	2.46	1.70-3.57	2.86	1.90-4.30	2.15	1.44-3.22
	DR due to other diseases	2.82	2.31-3.44	2.11	1.72-2.60	2.00	1.62-2.47	1.46	1.18-1.81	1.82	1.47-2.26	1.41	1.13-1.77
	DR due to any disease	3.03	2.52-3.65	2.34	1.94-2.85	2.20	1.82-2.68	1.62	1.33-1.98	1.97	1.62-2.42	1.53	1.23-1.88
Traffic ar	nd												
phone an	d internet												
	DR due to mental disorders	2.59	1.79-3.75	2.26	1.55-3.32	2.01	1.37-2.93	1.67	1.17-2.40	1.79	1.21-2.65	1.43	0.96-2.13
	DR due to other diseases	2.47	2.01-3.04	1.92	1.55-2.37	1.78	1.43-2.22	1.41	1.13-1.76	1.65	1.33-2.06	1.35	1.07-1.70
	uissass		2.01 0.01			•							
	DR due to any disease	2.50	2.07-3.01	1.98	1.63-2.41	1.83	1.50-2.23	1.46	1.19-1.79	1.68	1.37-2.05	1.37	1.11-1.68