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The Health Status of the Elderly Greeks and the Effect of the Economic Crisis

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Abstract

Due to the economic crisis in Greece, effects on health status of the population have been reported in several studies. Few publications have examined the role of socio-economic factors on health status. In this study, we extensively presented the health status of the elderly aged over 65 with respect to socio-demographic determinants, before and after the economic crisis, a topic which remains quite unexplored. We used the health surveys microdata conducted by the ELSTAT in two waves, 2009 and 2014. Among a sample of 2028 elderly in wave 1 and 2699 in wave 2 was found a considerable decline in in-patient hospitalization after the economic crisis and the examined chronic diseases were increased. Women most reported depression and hypertension, while diabetes was mostly increased in men. Depression, stroke and diabetes were significantly increased in respondents 85+ after the financial crisis. The results show that the health status of the elderly worsened due to the economic crisis in Greece.

Keywords: Health status, Elderly, Economic crisis.

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1. Introduction

In 2008, Greece entered a devastating economic crisis that has affected the country's social, political and financial stability (Katsimi & Moutos, 2010). Decreased wages, increased unemployment rates, pension cuts, poverty and financial inequalities were exacerbated due to the economic crisis. This phenomenon has provoked socio-economic and complex health status impacts, including decreases in tobacco use, increases in suicides and cardiovascular diseases (Falagas et al., 2009). With regard to mental health (Mylona et al., 2014; Simou et al., 2013) have already reported the impact of the economic crisis on mental health. Overall, Gili et al., 2013, reported that there is evidence that the ongoing recession is negatively affecting mental health status, such as depression and other mood disorders. Social determinants play a significant role on mental health, less educated individuals and those reporting job insecurity and lower socio-economic status, being at higher risk of poor mental health and other diseases (Odone et al., 2015). To date, there is little evidence of how the financial crisis may have influenced the health status and other chronic diseases in Greece (Zavras et al., 2013; Drydakis et al., 2015). Yfantopoulos et al., 2016, established a relationship between general and oral health status and its socio-economic determinants of the impact of the economic crisis. Chantzaras et al., 2017, investigated the impact of the economic crisis on health status and health inequalities in Greece using various approaches.

1.1 Objective

The aim of this paper is to investigate the health status of the elderly population aged over 65 years, before and after the economic crisis in Greece, based on health survey microdata by presenting which socio-demographic determinants influence the health status.

1.2 National health survey

The national health survey is a sample survey and includes questions about health status, demographic and economic factors such as education, degree of urbanization, marital status, employment and financial status. The national health survey is part of the European health interview survey (EHIS) and has designed and developed by the ELSTAT according to standards of the of the EHIS, to which all EU Member States participate every five years. For the national health survey, a multi-stage stratified sampling method was applied, with primary sampling unit the surface area (one or more city blocks or a small settlement), secondary unit the household and final unit the person aged 15 years and over (target-population) living in private households and residing in Greece. In total, a random sample of 6172 respondents aged over 15 years in 2009 (wave 1), and 8223 in 2014 (wave 2) were recruited. A weighting procedure was applied to formulate representative results at the national level (Palazzo et al. 2019), as a result, our sample comprised of 9305934 individuals in 2009 and 9150412 in 2014. Access to anonymized microdata was provided by ELSTAT after we signed an agreement about security, confidentiality, accessibility and use of data.

2. Methods

2.1 Data and study sample

For the purpose of our study ages between 15 and 64 years were excluded. Therefore, our sample data have been restricted to 2028 (2020023 elderly population, 44.6% men and 55.4% women, in wave 1) and 2699 (2243454 elderly population, 44.4% men and 55.6% women, in wave 2). Common variables were gathered between the health surveys in order our results to be comparable. SPSS v.23 was used for the descriptive analysis.

3. Definitions

3.1 Socio-demographic characteristics in both surveys

Gender was divided in two groups males and females, age groups were separated in 65-74, 75-84 and 85+. Respondents were classified in 3 groups according to their educational level low, medium, high and were also categorized in three major population areas, i.e., cities, suburbs and rural areas (Torre et al. 2021). Participants were also asked if they smoke and consume alcohol daily, less than daily or not at all. From descriptive analysis men and women percentages aged 65+ were similar in both surveys. Most of the participants were between 65 to 74 years and reported low educational level.

3.2 Health status profile and healthcare utilization

Health status of the respondents is described by 3 items, i.e., self-perceived health status, long term problems (LTP) and activity limitations during the last 6 months. Self-perceived health status was rated on a five-point ordinal scale as follows: very good, good, fair, bad and very bad in response to the question: «How would you rate your health today» and we regrouped it into 3 categories: 1) very good and good, 2) fair and 3) bad and very bad. Long term problems (LTP) were dichotomized to 0 or 1 value (0= no and 1= yes). Finally, activity limitations were classified in 3 groups: 1) severe activity limitations (SAL), limited but not severe, not limited). Variables on healthcare utilization were defined by the in-patient and day care hospitalization, visits to general practitioner, dentist and psychiatrist during the last 12 months. They were also dichotomized to 0 or 1 value (0= no and 1= yes). Our measure of chronic diseases included coronary artery disease, myocardial infarction, hypertension, stroke, diabetes, asthma, bronchitis and depression. These conditions were self-reported by respondents based on a checklist of 37 total diseases in 2009 and 23 in 2014. 8 of them were chosen because they were identified common between the two national health surveys and were increased after the economic crisis. Men self-perceived their health status as good or very good and women fair in both waves. The rate of LTP was significantly increased at 77.9% (2009) to 86.6% (2014), whereas SAL was slightly increased at 25.7% (2009) to 27.5% (2014). In addition, Zavras et al., 2013, investigated that poor self-rated health was most common in older people, pensioners, unemployed, those suffering

from chronic diseases and housewives due to the economic crisis, while men and individuals with higher income and educational attainment were more likely to rate their health as good or very good.

4. Results

LTP and SAL in relation to gender, age, degree of urbanization and educational level, 2009 and 2014

In the following graph (Figure 1) LTP were significantly increased by gender and age group. While, SAL were most reported by women and people aged 85+. LTP were also significantly increased by population area and educational level after the economic crisis. LTP were increased in men by 11 percentage units and people aged 65-74 by 8 percentage units. SAL were mainly increased by 3.6 percentage units in women and by 5.1 percentage units in elderly 85+ after the economic crisis (Table 1). LTP were almost increased by 10 percentage units in all population areas and were merely increased by 10.5 percentage units in people with middle educational level. On the other hand, SAL were most increased by 5.5 percentage units in rural areas and by 3.2 percentage units in low educated mainly (Table 2).

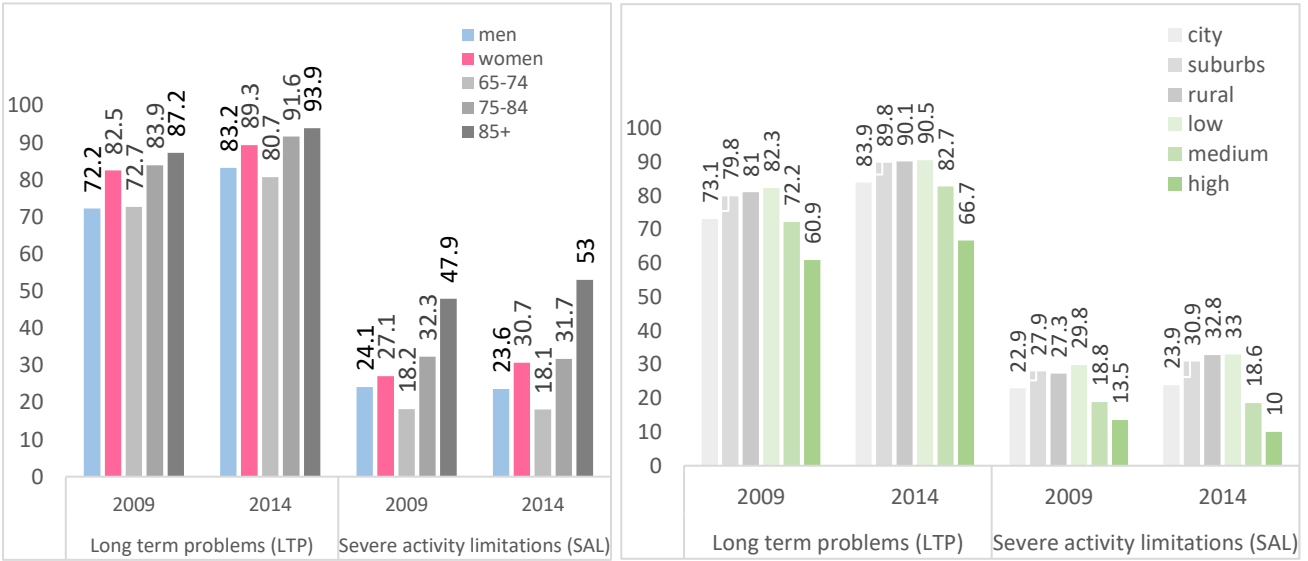


Figure 1: LTP and SAL by gender, age, degree of urbanization and educational level, 2009 and 2014

Chronic diseases in relation to gender and age, 2009 and 2014

As presented in the following graph (Figure 2) coronary artery disease was most prevalent in women and along with diabetes remained the most frequent diseases in both genders. All of the examined chronic diseases were increased in both genders, except asthma that decreased in women at 7.2% (2009) to 4.0% (2014). Hypertension (+5.4 percentage units), depression (+4.9) and myocardial infraction

(+3.8) were significantly increased in women than men, while diabetes was most increased by 5.8 percentage units in men after the financial crisis (Table 1). In relation to age, depression and strokes were significantly increased by 8.7 and 8.6 percentage units respectively and diabetes was increased by 5.6 percentage units in elderly 85+. Asthma was mainly increased by 5.1 percentage units in ages 75-84 and coronary artery disease was increased by 3 percentage units in ages 65-74 years, while it was decreased by 3 percentage units in ages 75-84 and by 5.6 percentage units in ages 85+.

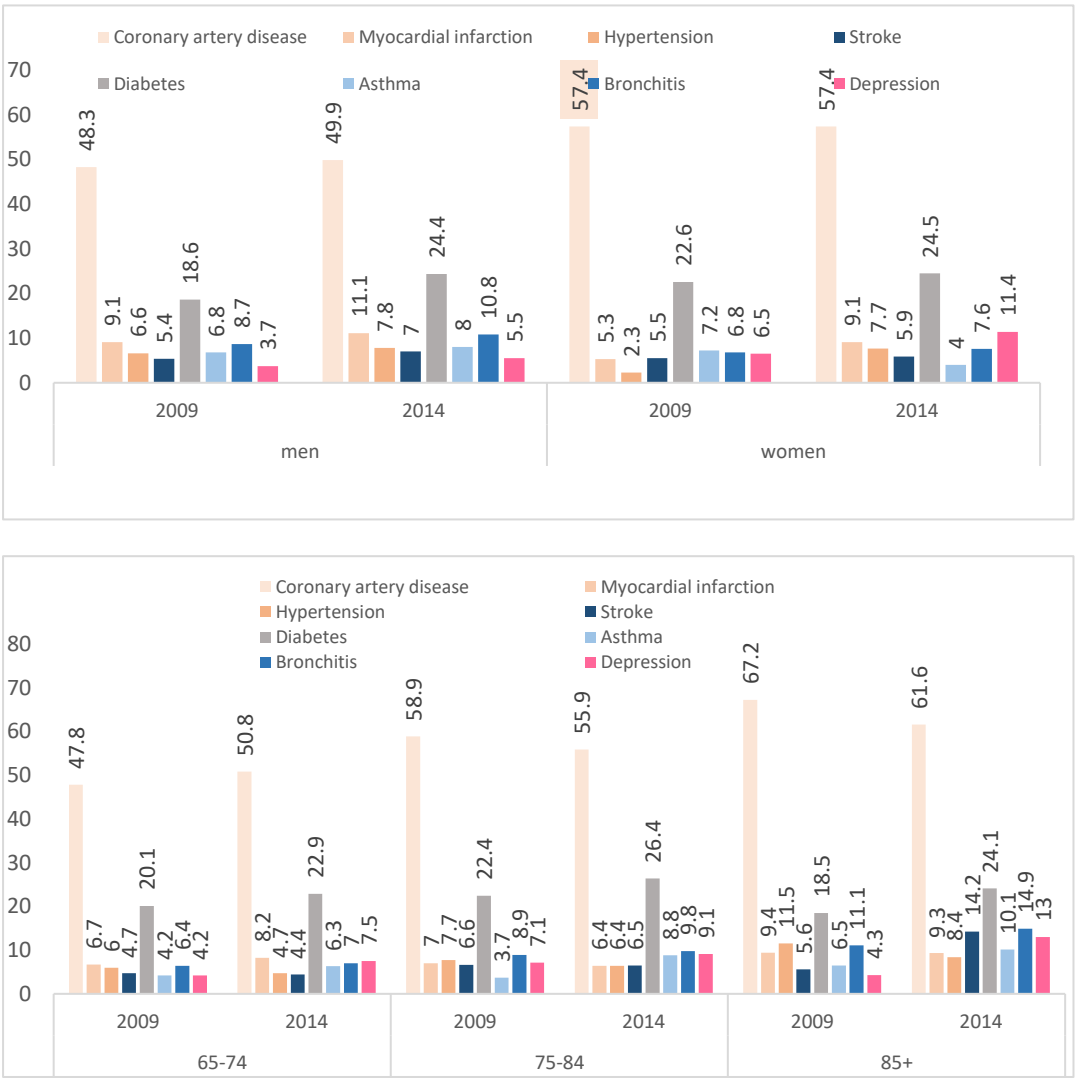
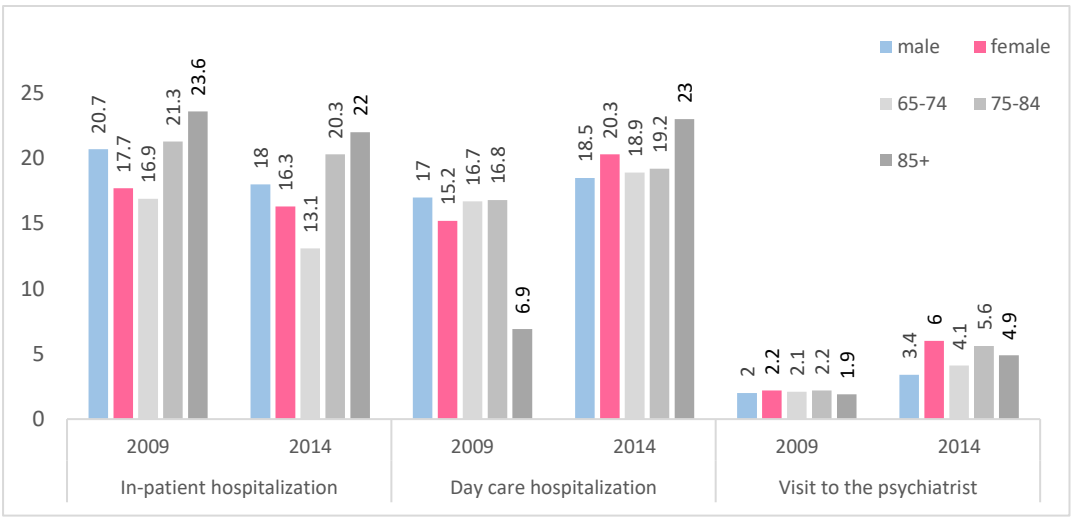


Figure 2: Chronic diseases by gender and age, 2009 and 2014

In-patient and day care hospitalization, visits to the psychiatrist (the last 12 months) in relation to gender, age, degree of urbanization and educational level, 2009 and 2014

The following graph (Figure 3) presents that in-patient hospitalization was decreased in both genders and all age groups while day care hospitalization was increased after the economic crisis. Day care hospitalization was mostly concentrated in ages 85+ and it was significantly increased by 16.1 percentage units at 6.9% in 2009 to 23% in 2014 (Table 1). Visit to the psychiatrist was mainly increased in women by 3.8 percentage units and in elderly aged 75+ and 85+ by 3.8 and 3 percentage units respectively after the economic crisis (Table 1). In relation to urbanization, in-patient hospitalization was also decreased in all population areas (Figure 3), whereas day care hospitalization was mostly increased in rural areas by 6.2 percentage units than cities or suburbs. In addition, visit to the psychiatrist was greatly increased in cities and suburbs by 3.5 and 3.7 percentage units, respectively than rural areas (Table 2). In relation to educational level, visit to the psychiatrist was increased by 4 percentage units in respondents with middle educational attainment after the financial crisis.



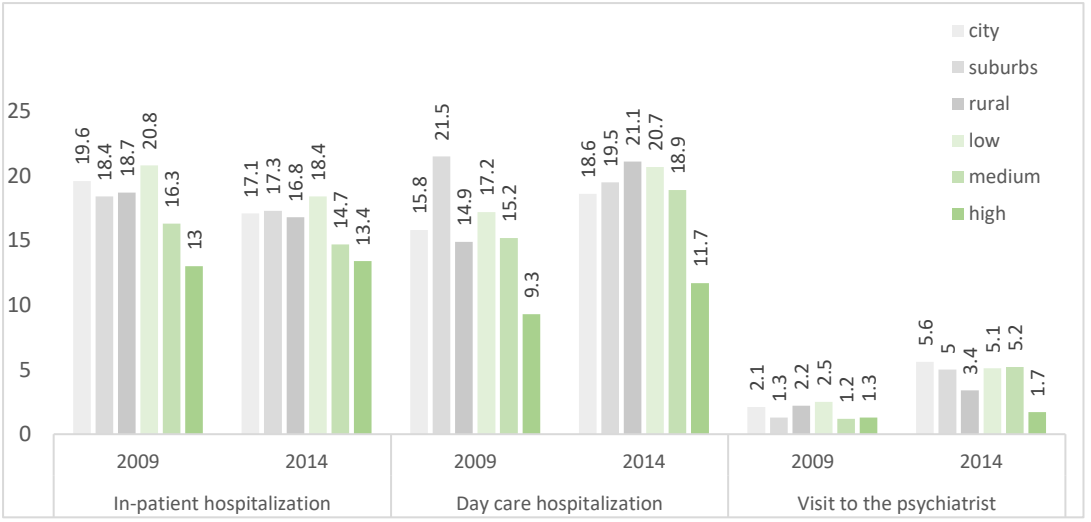


Figure 3: In-patient and day care hospitalization, visits to the psychiatrist by gender, age, degree of urbanization, educational level, 2009 and 2014

Daily smoking in relation to gender, age, degree of urbanization and educational level, 2009 and 2014

Daily smoking was mostly decreased after the economic crisis in men and people 85+ (Table 1). Moreover, daily smoking was greatly decreased in suburbs by 14.3 percentage units, whereas it was found significantly increased in individuals with high educational level only by 6.8 percentage units after the economic crisis (Table 2).

Table 1: Health status by gender and age group, in 2009 and 2014, in percentages

	Men %		**Women %**		**65-74 %**		**75-84 %**		**85+ %**	
Health status	2009	2014	2009	2014	2009	2014	2009	2014	2009	2014
Good or very good (self-perceived)	48	45.5 (-2.5)	31.4	32.4 (+1)	47.7	47.9 (+0.2)	28.5	32.6 (+4.1)	22.5	16.7 (-5.8)
Fair (self-perceived)	30.4	33.2 **(+2.8)**	42.2	41 (-1.2)	34.1	34.3 (+0.2)	41.4	40.3 (-0.8)	36.8	41.7 **(+4.9)**
Long term problems (LTP)	72.2	83.2 **(+11)**	82.5	89.3 **(+6.8)**	72.7	80.7 **(+8)**	83.9	91.6 (+7.7)	87.2	93.9 (+6.7)
Severe activity limitations (SAL)	24.1	23.6 (-0.5)	27.1	30.7 (**+3.6**)	18.2	18.1	32.3	31.7 (-0.6)	47.9	53 **(+5.1)**
In-patient hospitalization	20.7	18 **(-2.7)**	17.7	16.3 (-1.4)	16.9	13.1 **(-3.8)**	21.3	20.3 (-1)	23.6	22 (-1.6)
Day care hospitalization	17	18.5 (+1.5)	15.2	20.3 **(+5.1)**	16.7	18.9 (+2.2)	16.8	19.2 (+2.4)	6.9	23 **(+16.1)**
Visit to the psychiatrist	2	3.4 (+1.4)	2.2	6 **(+3.8)**	2.1	4.1 (+2)	2.2	5.6 **(+3.4)**	1.9	4,9 **(+3)**
Coronary artery disease	48.3	49.9 (+1.6)	57.4	57.4	47.8	50.8 **(+3)**	58.9	55.9 (-3)	67.2	61.6 (-5.6)
Myocardial infarction	9.1	11.1 (+2)	5.3	9.1 **(+3.8)**	6.7	8.2 (+1.5)	7	6.4	9.4	9.3
Hypertension	6.6	7.8 (+1.2)	2.3	7.7 **(+5.4)**	6	4.7 (-1.3)	7.7	6.4 (-1.3)	11.5	8.4 (-3.1)
Stroke	5.4	7 (+1.6)	5.5	5.9 (+0.4)	4.7	4.4 (-0.3)	6.6	6.5	5.6	14.2 **(+8.6)**
Diabetes	18.6	24.4 **(+5.8)**	22.6	24.5 (+1.9)	20.1	22.9 (+2.8)	22.4	26.4 (+4)	18.5	24.1 **(+5.6)**
Asthma	6.8	8 (+1.2)	7.2	4.0 (-3.2)	4.2	6.3 (+2.1)	3.7	8.8 **(+5.1)**	6.5	10.1 (+3.6)
Bronchitis	8.7	10.8 (+2.1)	6.8	7.6 (+0.8)	6.4	7 (+0.6)	8.9	9.8 (+0.9)	11.1	14.9 **(+3.8)**
Depression	3.7	5.5 (+1.8)	6.5	11.4 **(+4.9)**	4.2	7.5 (+3.3)	7.1	9.1 (+2)	4.3	13 **(+8.7)**
Daily smoking	17.9	15.2 (-2.7)	7.7	6.7 (-1)	16.1	14.9 (-1.2)	8.0	7.5 (-0.5)	4.3	2 (-2.3)

Table 2: Health status by degree of urbanization and educational level, in 2009 and 2014, in percentages

	Cities %		**Suburbs %**		**Rural %**		**Low %**		**Medium %**		**High %**	
Health status	2009	2014	2009	2014	2009	2014	2009	2014	2009	2014	2009	2014
Good or very good (self-perceived)	41.8	42.4 (+0.6)	43.6	35.3 (-8.3)	35.6	31.9 (-3.7)	31.5	29.1 (-2.4)	49.5	50 (+0.5)	64.9	75.7 (+10.8)
Fair (self-perceived)	35.4	35.5	33.5	38 (+4.5)	38.9	41.1 (+2.2)	39.3	42.5 (+3.2)	33.8	31.3 (-2.5)	27.8	17.2 (-10.6)
Long term problems (LTP)	73.1	83.9 (+10.8)	79.8	89.8 (+10)	81	90.1 (+9.1)	82.3	90.5 (+8.2)	72.2	82.7 (+10.5)	60.9	66.7 (+5.8)
Severe activity limitations (SAL)	22.9	23.9 (+1)	27.9	30.9 (+3)	27.3	32.8 **(+5.5)**	29.8	33 **(+3.2)**	18.8	18.6 (-0.2)	13.5	10 (-3.5)
In-patient hospitalization	19.6	17.1 (-2.5)	18.4	17.3 (-1.1)	18.7	16.8 (-1.9)	20.8	18.4 (-2.4)	16.3	14.7 (-1.6)	13	13.4
Day care hospitalization	15.8	18.6 (+2.8)	21.5	19.5 (-2)	14.9	21.1 **(+6.2)**	17.2	20.7 (+3.5)	15.2	18.9 (+3.7)	9.3	11.7 (+2.4)
Visit to the psychiatrist	2.1	5.6 (+3.5)	1.3	5 (+3.7)	2.2	3.4 (+1.2)	2.5	5.1 (+2.6)	1.2	5.2 **(+4)**	1.3	1.7
Daily smoking	14.1	12.5 (-1.6)	21.3	7.0 (-14.3)	8.9	8.2 (-0.7)	11.4	8.5 (-2.9)	15	12.9 (-2.1)	11.9	18.7 **(+6.8)**

5. Conclusions

The comparison of the two waves of the National Health Interview Survey showed that from 2009 to 2014, LTP exacerbated in both genders and all age groups, while SAL were most reported in women and people aged 85+. Researchers report that, demographic, socio-economic and health status inequalities exist by gender in the utilization of health care services. Compared with women, men report significantly lower utilization in all types of health services except hospitalization (Janković et al., 2009). Even more, in periods of financial crisis less utilization of health services, deteriorated populations health and greater morbidity are involved (Zavras et al., 2013). The results of our study show that, in-patient hospitalization was mostly reduced in men than women and people 65-74 who lived in cities with low educational level, whereas, day care hospitalization was greatly increased in women, and people aged 85+, living in rural areas. Furthermore, all of the examined chronic diseases were increased after the financial crisis. Economou et al., 2013, highlight an association between the 2008 recession, increased stress and poorer mental health. The impact of the 2008 recession led to greater risk of major depression among people in Greece. Our study reveals that depression was most concentrated in women and respondents 85+. As a result, may explain that visit to the psychiatrist was mainly concentrated by women and people aged 75+ and 85+ with medium educational attainment. Our findings are in agreement with other studies reporting that females have been consistently associated with increased depression risk in later life and increased rates of depression in late life tend to increase with age (Eaton et al., 1997; Forsell and Winblad, 1999; Steffens et al., 2000; Palsson et al., 2001). Additionally, Torre et al., 2021 estimated the prevalence

of depression in 27 European countries and was found that depression was high, particularly among women. The subgroups with the highest prevalence of depression were those who were aged 75+ years, living in densely populated areas, had a long-standing illness and were severely limited in their activity. Furthermore, the prevalence of depression decreased as income and educational level increased. In addition, higher diseases prevalence including psychiatric diseases were concentrated among the low educated (Palazzo et al. 2019). Tobacco use has been found to decrease during periods of economic downturn (Parry et al., 2009). Our results seem to confirm this finding. The decline of daily smoking was documented for both males and females, any age group and all population areas whereas it was increased in high educated only. Price increases in tobacco products, may be a policy to improve population health (Filippidis et al., 2014). Exploring population health status is important to formulate appropriate public health policies (Verropoulou et al., 2017). These results reinforce the need for interventions aimed at reducing existing socioeconomic disparities, focusing on mental health awareness and promoting healthier lifestyle throughout the elderly population.

Limitations and further research

In this study we couldn't access economic data (i.e., income) and diseases (i.e., cancer, dementia). Our research could be extended by using the next health survey microdata of 2019 (wave 3) in order to present a 10-year trend analysis. Income, employment status and marital status could be included to present the impact on health status of the respondents. Statistical models could be applied in order more conclusions to be conducted.

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