Impact of economic crisis and other demographic and socio-economic factors on self-rated health in Greece

Dimitris Zavras, Vasiliki Tsiantou, Elpida Pavi, Katerina Mylona, John Kyriopoulos

Department of Health Economics, National School of Public Health, Athens, Greece

Correspondence: Dimitris Zavras, National School of Public Health, Department of Health Economics, 196 Alexandras Avenue, 11521 Athens, Greece, tel: +302132010247, fax: +302106449571, e-mail: dzavras@gmail.com

Background: Financial crisis and worsened socio-economic conditions are associated with greater morbidity, less utilization of health services and deteriorated population’s health status. The aim of the present study was to investigate the determinants of self-rated health in Greece. Methods: Two national cross-sectional surveys conducted in 2006 and 2011 were combined, and their data were pooled giving information for 10,572 individuals. The sample in both studies was random and stratified by gender, age, degree of urbanization and geographic region. Logistic regression analysis was used to determine the impact of several factors on self-rated health. Results: Poor self-rated health was most common in older people, unemployed, pensioners, housewives and those suffering from chronic disease. Men, individuals with higher education and those with higher income have higher probability to report better self-rated health. Furthermore, the probability of reporting poor self-rated health is higher at times of economic crisis. Conclusion: Our findings confirm the association of self-rated health with economic crisis and certain demographic and socio-economic factors. Given that the economic recession in Greece deepens, immediate and effective actions targeting health inequalities and improvements in health status are deemed necessary.

Introduction

In 2009, Greece entered into one of the most serious economic downturns in its modern history. In May 2010, the country was put under the supervision of the European Commission, the European Bank and the International Monetary Fund and signed the Economic Adjustment Program and its revision in autumn 2010.
Since then, the financial crisis has affected all the major sectors of the Greek economy. The principal economic indicators have shown a significant deterioration. According to the latest available data, the greatest impact was on the employment sector where unemployment reached an unprecedented rate of 16.3% in the second quarter of 2011, which represents an increase of 126.4% when compared with the same period in 2008. Youth unemployment rose from 15.5% in 2008 to 32.9% in 2011. Furthermore, based on the most recent data of Eurostat, Greece exhibited the highest ratios of government deficit and government debt in 2010 reaching −10.6 and 144.9% of Gross Domestic Product, respectively.

As stated by Musgrove (1987), worsened economic conditions can have serious impact on health status. This mechanism can be activated through two basic channels: reduced income and reduced government spending. These dimensions may affect the health status of the population directly or indirectly through the health care system. On one hand, reduced income results in greater morbidity and less utilization of private health services through lower salaries and increased unemployment, whereas on the other hand, reduced government spending affects the quantity and quality of public health services available and thus contributes to the deterioration of population’s health status.

The impact of financial crisis on social and economic life has been widely discussed in the international literature. Based on this, it has been well established that the reduction and/or the lack of income along with the increase in the number of unemployment are the primary and direct results of financial crisis, causing losses on prosperity and pushing a substantial part of the population into extreme poverty.

Unemployment and reduced income are associated with mental disorders, addiction problems and substance abuse, and with the adoption of less healthy lifestyles such as increased consumption of cheap food with little nutritional value, smoking, alcohol consumption and poor disease management resulting from overburdened health care services. Besides, it is well established in the international literature that lower socio-economic status is associated with higher rates of morbidity and mortality and poorer health status.

According to a recent study by Stuckler and Basu (2009), International Monetary Fund programmes are strongly associated with negative effects on health status. The greatest impact has been recorded in the infant and tuberculosis mortality rates as a result of reduced government budget including spending on public health and health care delivery.

In Greece, although there are indications that the financial crisis has an impact on the health status of the population, so far there has not been any published study that investigates the relationship between these two variables. Thus, the aim of our study was to determine whether there is an association among economic crisis, demographic and socio-economic factors in Greece and self-rated health (SRH), one of the most frequently used proxy measures for health status.

Methods

This study is based on the data of two national cross-sectional surveys conducted in Greece in 2006 (survey I) and 2011 (survey II). In each survey, a national random sample was drawn stratified by age (adults >18 years), gender, degree of urbanization and geographic region. In survey I (2006), personal interviews were conducted and 4003 individuals participated, whereas in survey II (2011) 6569 individuals were interviewed through telephone. The same purpose-made questionnaire was used in both surveys, and only minor modifications were made in the questionnaire of survey II to serve better the telephone interview. In both surveys, the questionnaires were piloted before the main data collection phases (June 2006 and February 2011, respectively), the interviews were carried out by specially trained professional interviewers and standard quality assurance procedures were used for reconfirming 15% of the interviews. These two cross-sectional studies were combined and the data were pooled giving data from 10,572 individuals. Then, a dummy variable for survey year (1 for 2011 and 0 for 2006) was created to be used as a proxy measure of the economic crisis.

Chi-square and Fisher’s tests were performed to explore the association of very good and good SRH, unemployment and income with the survey year (i.e. before and after crisis). SRH was rated on a five-point ordinal scale as follows: very good, good, moderate, poor and very poor in response to the question: ‘How would you rate your health today?’ and was regrouped into two categories: (1) very good and good and (2) moderate, poor and very poor. Logistic regression analysis was used to evaluate the influence on SRH of several demographic, socio-economic and disease-related factors. Independent variables were income, which was defined as the self-reported monthly household income from any source in euros and was grouped in a six-point ordinal scale (0–500, 501–1000, 1001–1500, 1501–2000, 2001–3000 and 3001+€); education, which was grouped in a three-point ordinal scale (no up to primary education, secondary education and tertiary education); employment status as a nominal variable (employed, unemployed, pensioners, housewives, student–soldiers, other); public insurance coverage and private insurance coverage, which were binary variables (no, yes); age in years (18–25, 26–40, 41–55, 56–65, 66–75, 76+) as an ordinal variable; gender (female, male); existence of chronic disease (no, yes) and survey year, which were binary variables. Income, education and age were treated as continuous variables by the logistic regression model. Data analysis was conducted using the STATA 9 statistical package.

Variables for model construction in this study were selected because income and unemployment are not only suggested by the literature as the main mediating mechanisms between economic crisis and health, but represent an early (almost immediate) impact of an economic crisis on society. These were thus suitable for this study given that in February 2011 (when the second survey was carried out) the crisis had manifested this early impact. Although there are also other variables that economic crisis can affect, such as lifestyle factors and nutritional habits that can consequently have an impact on the health status of the population, there is a debate whether the economic crisis has a positive or negative effect on these variables. Finally, demographic variables were included in the model as they have a known and indisputable interrelation with SRH.

Results

Data from 10,572 Greek adults were collected. Table 1 shows the descriptive statistics of SRH in relation to demographic and socio-economic variables in 2006 and 2011, respectively. The overall prevalence of good and very good SRH in 2006 was 71.0%, whereas in 2011 people with good and very good SRH accounted for 68.8% ($P<0.05$).

As shown in table 2, a significant association was detected between employment status and survey year ($P<0.001$) while similarly significant ($P<0.001$) was the association between income and survey year, both indicating that unemployment and income level changed during the periods 2006 and 2011.

According to the logistic regression model, income, education, employment status, age, existence of chronic disease, gender and survey year were found to be statistically significant determinants of SRH.

Individuals with higher income (odds ratio (OR) 1.18), higher education (OR 1.48) and men (OR 1.31) have a higher probability of rating their health as good or very good. On the other hand, findings for age (OR 0.87) and existence of chronic disease (OR 0.18) indicate that older individuals and those suffering from a
chronic disease have a lower probability of rating their health as good or very good.

Regarding employment status, students and soldiers were found to have a higher probability of rating their health as good or very good (OR 1.54), whereas pensioners (OR 0.83) and housewives (OR 0.78) have a lower probability of rating their health as good or very good. Although unemployment (OR 0.79) was marginally statistically significant ($P = 0.05$, CI 0.63–0.99), this finding indicates that the unemployed were less likely to report good health. The other categories of occupational status were not statistically significant ($P > 0.05$).

Individuals at times of economic crisis (year 2011) (OR 0.88) have a lower probability of rating their health as good or very good (table 3).

Finally, public insurance and private insurance were not found to be statistically significant ($P > 0.05$) and thus the data are not shown.

Table 4 shows that the diagnostics indicate a good fit of the model. As the predictive ability of the logistic regression model is high (McFadden $R^2 = 0.21$ and area under the ROC curve = 0.80),
the findings of this study provide strong evidence of the association of SRH with economic crisis and several demographic, socio-economic and disease-related factors.

Discussion

Main findings

This study investigated the impact of economic crisis, demographic, socio-economic and disease-related factors on SRH in Greece. Self-rated health is widely used in public health and epidemiological studies as a health measure and as a predictor of mortality and morbidity in the population. Therefore, one could assume that SRH is a valid proxy indicator of the actual health status of the population, although there seems to be differences in the different aspects of SRH such as age or self-comparative SRH items that are available. There are many published studies in the international literature which investigate the association of SRH and different demographic, socio-economic and lifestyle factors and disease-related conditions.

According to our study, better (good or very good) SRH is positively associated with income and education and negatively with unemployment, existence of chronic disease and age. Furthermore, men, students and soldiers are more likely to rate their health as good or very good, whereas the opposite seems to apply to pensioners and housewives. In addition, 2011, which in our study represented the year of the financial crisis in Greece, was found to influence negatively the SRH.

The results of our study are in line with the findings of previous studies. As expected, our findings show that high income and high education are strongly associated with better SRH. These two variables characterize mainly the socio-economic status of the population and have been associated with health inequalities among people of different socio-economic status.

Age on the other hand emerged as a significant determinant of SRH, and our findings suggest that older people are more likely to report poor SRH. This does not only make sense, as older people are more likely to have a disease and more health problems, but is also consistent with published evidence. Additionally, there are studies supporting that age is one of the main determinants of SRH.

Unemployment, another detected significant determinant of poor SRH, has also been discussed in detail in the international literature. Poorer SRH is more frequently reported by the unemployed compared with the employed and even more so in periods of high unemployment rates as a recent study revealed.

Pensioners and housewives, and those suffering from chronic diseases and multiple comorbidities, were found to have more chances to have poor SRH. Many chronic diseases are strongly associated with poorer SRH as previous studies have found. Furthermore, it is well known that socio-economic inequalities in morbidity by education and income exist among the elderly population in many European countries, and this phenomenon is expected to grow in times of economic crisis. The association between gender and SRH has been mentioned in other studies as well, and it has been found that males tend to report better health. In the case of women, there is evidence that employed women report better SRH than housewives, although in some cases it is partly attributed to lower income and education level. Furthermore, our results are in line with previous studies conducted in Greece about SRH and its determinants.

The results of our study show that economic crisis has a negative impact on SRH. This finding is consistent with published studies showing that during periods of financial crisis the health status of the population decreases. Furthermore, it has been proven that health inequalities remain for a large period after the economic crisis among individuals in different socio-economic status.

Although there are studies that suggest an improvement in health status during economic recession, it does not seem to be the case in Greece. In 2011, the year that the second national survey took place, Greek citizens had started experiencing at an early stage the negative consequences of the financial crisis on their personal income because of cuts in wages and high taxes. As previous studies have shown, reduced income is one of the determinants of worsened health outcomes for the population. It is associated with reduced food consumption, reduced use of preventive care services and health services utilization in general, and increased stress and adoption of high-risk behaviours. This explains to some extent our result. However, it would be interesting to repeat the survey and the analysis in a few years to confirm or reject this finding.

Study implications

Our findings highlight the areas that health policy should target to protect population’s health. The growing burden of chronic diseases is accelerated by the current economic crisis because of the adoption of unhealthy lifestyles, which further hinders economic growth and development. Hence, interventions targeting the prevention of major risk factors, the early detection of disease through screening programmes and the optimal management of chronic diseases should be adopted. In addition, policies aiming at the most vulnerable groups of the population, such as the elderly individuals, should be implemented. Population ageing renders such interventions necessary, as increasingly more people will be included in this age group. However, the most challenging issue in light of the economic crisis is to maintain social cohesion and social welfare programmes, not only for the elderly population, but also for the unemployed and those in lower socio-economic strata. Furthermore, as mentioned before, because of the economic recession, unemployment is expected to rise and income will be possibly decreased which will further contribute to the deterioration of health. Thus, maintaining or developing social safety nets that support the vulnerable population and investing in a health services model, which is primarily oriented to public health and primary health care services, should be a priority.

Strengths and limitations

To our knowledge, this is the first study conducted in Greece on this subject based on a large national representative sample and thus provides strong and concrete evidence about the impact of the independent variables on SRH. Also, this is the first time comparative results of these two surveys are presented and have great importance given that the first one was conducted before, and the second one after, the inception of the economic crisis in Greece.

However, there are also limitations in our study. First of all, someone could claim that since the second study (2011) took place at the beginning of the economic crisis, it does not present in its full extent the impact of the economic crisis on health. However, we expect that conducting the same study today, where the crisis is deeper, would reveal that the impact of the financial crisis is deeper and more extensive.
crisis on health is more intense. The second limitation of our study concerns the fact that in our analysis we included only income, education, demographical variables and disease-related factors as independent variables and not other variables (such as smoking and nutritional habits). The reasoning is that we decided to focus on the most indisputable variables, and variables that have conflicting findings in the international literature were not included in the analysis. Furthermore, the effect of the economic crisis on these variables (except income and employment) was not visible at the time of the survey.

Conclusions

Our findings confirm the association of SRH with certain demographic, socio-economic and disease-related conditions and with economic crisis. Based on these findings, decision makers should design and implement the policies necessary to protect the health status of the population and to narrow health inequalities in Greece.

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Conflicts of interest: None declared.

Key points

- This study investigated the association between SRH, economic crisis, demographic, socio-economic and disease-related factors in Greece.
- Older people, unemployed, pensioners, housewives and those suffering from chronic diseases were more likely to have poor SRH.
- In times of economic crisis, it was most common for individuals to report poor SRH.
- Better socio-economic status is a determinant of better SRH.
- The present study highlights the importance of implementing policies and interventions to protect the health status of the most vulnerable population, especially in times of economic crisis.

References