

## Smoking Cessation During the Years of Economic Crisis: A Smoking Cessation Clinic Experience

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### Abstract

**Introduction:** Greece has been affected by economic crisis and severe austerity measures have been implemented. The effect of economic crisis on smoking cessation varies.

**Aim:** To assess the impact of economic crisis on smoking cessation in a smoking cessation clinic; to evaluate the possible changes in smoking behavior, motivations to quit and different smoking cessation strategies used during the years of the economic crisis (2008 to 2015).

**Methods:** Data of each year regarding the number of smokers visiting the clinic, smoking history, reasons for smoking cessation, different treatments for smoking cessation were retrospectively collected and compared. The Fagerström Test for Nicotine Dependence (FTND) was used for the assessment of nicotine dependence and Rosenberg Self-Esteem Scale for self-esteem assessment.

**Results:** The number of smokers visiting the clinic decreased over the years ( $P = 0.013$ ), as the total score in Rosenberg questionnaire ( $P < 0.001$ ). Age, FTND score and pack years did not differ between years. Economic problems and health issues were the main reasons for smoking cessation. The percentage of counseling only /no medication and the use of varenicline rose during crisis, while the use of nicotine products and bupropion dropped. Concern about insurance coverage for pharmacotherapy increased ( $P < 0.001$ ). The percentage of subjects who answered that they did not quit smoking or relapsed because of anxiety – economic problems was increasing over the years ( $P = 0.009$ ,  $P = 0.011$  respectively).

**Conclusions:** Anxiety, economic problems, unemployment and low self-esteem were the reasons for relapse that increased over the years of crisis.

**Keywords:** Smoking Cessation; Economic Crisis; Strategies; Relapse; Unemployment; Anxiety

### Introduction

Smoking is one of the largest public health problems and Greece has one of the highest adult percentages of current tobacco use among European countries (38%) [1]. However, there are data documenting a downward trend in smoking prevalence and consumption among

adults in Greece during the last years [2]. Greece has adopted a tobacco control plan that prohibited smoking in all public places, restricted tobacco advertising and increased prices through tobacco excise taxes [3] (tobacco product prices increased almost by 40%). The prevalence of smoking in Greece has decreased from 43.1 (2006) to 38% (2014) and 43% of smokers have tried to stop smoking (2014) [1,4]. However, despite the government's tobacco control policies, the enforcement of tobacco control legislation has remained weak, with Greece having the highest proportion of people smoking inside an eating establishment in Europe (72%) [1].

From 2008, Greece has been severely affected by economic crisis and severe austerity measures have been implemented. These measures have affected people's lives as unemployment and taxes increased, quality of health care worsened and quality of life has declined. In almost 40% of house-holds there is at least one unemployed member and the expenses for basic goods and food are been reduced over the last years [4,5].

The effect of economic crisis on smoking cessation varies in different studies. There are studies supporting that smokers experiencing financial crisis are the least likely to quit or that their quitting attempt is not likely to be successful [6-8]. Exposure to economic recession increased the risk for unhealthy drinking and smoking [9] and increased the percentage of current smokers-primarily for women in an Italian sample [10]. However, there are studies supporting the decrease of tobacco during economic crisis [11-13]. In a study in Iceland the prevalence of smoking declined following the 2008 economic crisis and former smokers who experienced income decline were less likely to relapse whereas those with increased income were more likely to relapse [14,15].

Specifically, for Greece, it has been found that the prevalence of smoking has decreased and the overall intention to quit smoking has increased over the time of economic crisis possibly due to the austerity measures concurrently with tobacco taxes, tobacco control initiatives and advertising restrictions [5].

The aim of this study was to assess the impact of the economic crisis on smoking cessation in a Greek smoking cessation clinic from 2008 to 2015 in order to evaluate the possible changes in smoking behavior, motivations to quit and different smoking cessation strategies used (counseling, pharmacotherapy) during the years of the economic crisis.

### Methods

A retrospective study of the records of the Smoking Cessation Clinic of the Respiratory Failure Unit of G. Papanikolaou Hospital in Thessaloniki between 2008 (beginning of crisis) and 2015 (great impact of crisis on salaries, psychology) was done. Data of each year of the period from 2008 to 2015, regarding the number of smokers that visited the clinic and received consultation, their smoking history, the main reasons for smoking cessation, the different treatments offered for smoking cessation were collected and compared between years. The local ethics committee reviewed the protocol. The Fagerström Test for Nicotine Dependence (FTND) was used for the assessment of the physical dependence on nicotine. FTND is widely used and consists of six questions (score range from 0 to 10) [16]. Rosenberg self-esteem scale was used as a self-esteem measure [17]. It is a ten-item questionnaire (Likert-type scale) answered on a four-point scale (strongly agree to strongly disagree). Five of the items have positively worded statements and five have negatively worded ones. The scale measures state self-esteem by asking on the current feelings of the responders. The scale ranges from 0 - 30. Scores between 15 and 25 are within normal range; scores below 15 suggest low self-esteem. It has been translated in various languages [18]. Smokers were given advice concerning the smoking cessation process together with psychological support and brochures with useful information for smoking cessation and contact numbers for further information. The follow up of the smokers during the cessation program was made by telephone at 15 days, 1 and 6 months from the date of their visit to the smoking cessation clinic. Six months after their first visit all the smokers were contacted by telephone to evaluate those who successfully quit smoking. They were asked about their smoking status, relapse, withdrawal problems and possible side effects of pharmacological treatment. Also, if they failed or relapsed they were asked about the reasons (i.e withdrawal symptoms, strong dependence, anxiety, and economic problems). Smoking cessation was defined as the continu-

ous abstinence from smoking from the programmed quitting date until the telephone contact (after 6 months). The smoker was excluded from the study if there were three unsuccessful attempts in the telephone contact after 6 months of first visit.

## Statistical Analysis

SPSS software, version 20 of the IBM Company was used for the statistical analysis. For the detection of linear-by-linear association for different factors over the years of economic crisis, and of statistically significant factors in the outcome of a six-month try, we used the statistical test  $\chi^2$  (chi square). Data were presented as mean  $\pm$  SD unless otherwise stated. Analysis of variance (ANOVA) by t tests for continuous variables was used for the analysis of the differences between group means. Stepwise multiple linear regression analysis was used to explore the variables independently related to different measurements. Tests were two-tailed and  $p < 0.05$  was accepted as statistically significant.

## Results

The total number of visits has significantly reduced between 2008 - 2015 (Table 1). Age, FTND score, the number of daily cigarettes and pack years did not differ between years (Table 1). The percentage of men that visited the smoking cessation clinic was greater than that of women (55 - 59%), with the lowest percentage of women in 2011 (36.6%). The percentage of unemployed smokers rose ( $p = 0.003$ ) whereas the score of Rosenberg self-esteem scale decrease (less self-esteem) ( $p < 0.001$ ) over the years (Table 1). The main reasons of smoking cessation during the years 2008-2015 are presented in Table 2. The first reason for smoking cessation during all the years studied was health issues, but from 2010 the cost of smoking became the second main reason with increased percentages over the last years of crisis ( $p < 0.001$ ). The outcome of smoking cessation attempts are presented in Table 2. Neither the quitting nor the relapse rate after 6 months differed significantly over the years studied. The smoking cessation strategies are presented in Table 3. The percentage of counseling only /no medication and the use of varenicline rose during the years, while the use of nicotine products and bupropion dropped. The use of electronic cigarette increased during the years (up to almost 75% in 2015). However, our smoking cessation clinic does not support the use of electronic cigarette for smoking cessation. The number of smokers that were concerned about the coverage of the expenses of smoking cessation from their insurance company increased over the years (Table 3). The FTND score (negatively) and the score of the Rosenberg questionnaire (positively) were found to be the most statistically significant factors for quitting after 6 months ( $P < 0.001$  and  $P < 0.001$  respectively). For relapse after 6 months, the most significant factors found were again the FTND score (positively) and the score of the Rosenberg questionnaire (negatively), but also unemployment ( $P < 0.001$  and  $P = 0.007$  and  $P = 0.001$  respectively). Anxiety and economic problems were the main reasons for relapse that increased over the years (Table 4) to almost 50% in 2015, whereas the reason of the "strong dependence" reduced over the years.

|                                  | 2008            | 2009            | 2010            | 2011            | 2012            | 2013             | 2014            | 2015            |
|----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|
| Number*                          | 345             | 360             | 320             | 213             | 134             | 132              | 122             | 109             |
| Gender (Male/Female)             | 195/150         | 212/148         | 185/135         | 135/78          | 76/58           | 71/61            | 69/53           | 60/49           |
| Age (Mean $\pm$ SD)              | 45.5 $\pm$ 13.1 | 48.0 $\pm$ 12.3 | 46.4 $\pm$ 11.9 | 46.1 $\pm$ 11.9 | 47.1 $\pm$ 12.1 | 46.0 $\pm$ 8.4   | 45.8 $\pm$ 10.0 | 45.6 $\pm$ 10.8 |
| Unemployment**(%)                | 40(11.6)        | 50(14)          | 60 (18.7)       | 49 (23)         | 38(28.4)        | 41(31)           | 38(31.5)        | 38(35)          |
| FTND (Mean $\pm$ SD)             | 6.94 $\pm$ 2.7  | 7.11 $\pm$ 2.8  | 7.2 $\pm$ 2.65  | 7.14 $\pm$ 2.8  | 7.14 $\pm$ 2.5  | 7.1 $\pm$ 2.84   | 7.25 $\pm$ 2.6  | 7.3 $\pm$ 2.7   |
| Rosenberg (Mean $\pm$ SD)***     | 23.2 $\pm$ 3.55 | 22.2 $\pm$ 3.50 | 20.1 $\pm$ 3.36 | 19.1 $\pm$ 3.52 | 17.1 $\pm$ 4.24 | 17.15 $\pm$ 3.72 | 16.1 $\pm$ 4.9  | 15 $\pm$ 4.1    |
| Daily Cigarettes (Mean $\pm$ SD) | 32.1 $\pm$ 20.2 | 30.0 $\pm$ 15.5 | 33.1 $\pm$ 16.5 | 31.4 $\pm$ 18.8 | 30.7 $\pm$ 19.1 | 30.0 $\pm$ 19.1  | 31.3 $\pm$ 20.0 | 31.4 $\pm$ 16.6 |
| Pack years (Mean $\pm$ SD)       | 35.8 $\pm$ 27.2 | 41.4 $\pm$ 28.9 | 42.9 $\pm$ 25.7 | 36.1 $\pm$ 23.4 | 38.6 $\pm$ 29.3 | 41.0 $\pm$ 34.7  | 44.9 $\pm$ 42.6 | 38.7 $\pm$ 23.9 |

**Table 1:** Characteristics of the subjects studied between 2008 – 2015.

\* Linear-by-Linear association in decreasing number of patients visiting smoking cessation clinic per year ( $P = 0.013$ )

\*\*Linear-by-Linear association in increasing percentage of unemployed patients over the years ( $P = 0.003$ )

\*\*\*Linear-by-Linear association in decreasing total score in Rosenberg questionnaire between patients over the years ( $P < 0.001$ )

\*\*\*\*Linear-by-Linear association in increasing percentage of patients who concerned about insurance coverage for smoking cessation treatment over the years ( $P < 0.001$ )

FTND= Fagerström Test for Nicotine Dependence

|  | 2008       | 2009       | 2010       | 2011       | 2012      | 2013      | 2014      | 2015      |
|--|------------|------------|------------|------------|-----------|-----------|-----------|-----------|
| Number                                     | 345        | 360        | 320        | 213        | 134       | 132       | 122       | 109       |
| Health problems (%)                        | 169 (49)   | 161 (44.7) | 148 (46.3) | 101 (47.4) | 50 (37.3) | 51 (38.6) | 49 (40.2) | 47 (43.1) |
| Cost of smoking (%)*                       | 39 (11.3)  | 53 (14.7)  | 67 (20.9)  | 54 (25.4)  | 43 (32.1) | 42 (31.8) | 41 (33.6) | 40 (36.7) |
| Children's health (%)                      | 48 (13.9)  | 46 (12.8)  | 47 (14.7)  | 26 (12.2)  | 20 (14.9) | 18 (13.6) | 14 (11.5) | 13 (11.9) |
| Pressure from their family (%)             | 70 (20.3)  | 76 (21.1)  | 48 (15)    | 25 (11.7)  | 17 (12.7) | 21 (15.9) | 18 (14.8) | 9 (8.3)   |
| Difficulty of smoking in Public places (%) | 19 (5.5)   | 24 (6.7)   | 10 (3.1)   | 7 (3.3)    | 4 (3)     | 0 (0.0)   | 0 (0.0)   | 0 (0.0)   |
| Quit (%)                                   | 93 (26.9)  | 98 (27.2)  | 86 (26.9)  | 58 (27.2)  | 35 (26.1) | 36 (27.3) | 33 (27.1) | 30 (27.5) |
| Did not quit (%)                           | 217 (62.9) | 228 (63.3) | 200 (62.5) | 133 (62.5) | 85 (63.4) | 84 (63.6) | 77 (63.1) | 68 (62.4) |
| Relapse (%)                                | 35 (10.2)  | 34 (9.5)   | 34 (10.6)  | 22 (10.3)  | 14 (10.5) | 12 (9.1)  | 12 (9.8)  | 11 (10.1) |

**Table 2:** Reasons for smoking cessation and outcomes between 2008-2015.

\*Linear-by-Linear association in increasing percentage of patients who try to cease smoking because of cost of smoking over the years ( $P < 0.001$ )

|   | 2008       | 2009     | 2010     | 2011     | 2012     | 2013      | 2014       | 2015       |
|---|------------|----------|----------|----------|----------|-----------|------------|------------|
| Number  | 345        | 360      | 320      | 213      | 134      | 132       | 122        | 109        |
| Counseling only –No medication (%)*                       | 77 (22.3)  | 40 (11)  | 70 (22)  | 55 (26)  | 36 (27)  | 46 (35)   | 54 (44.3)  | 49 (45)    |
| Nicotine products (%)**                                   | 171 (49.5) | 165 (46) | 125 (39) | 79 (37)  | 44 (33)  | 38 (29)   | 25 (20.5)  | 23 (21)    |
| Bupropion HCl (%)**                                       | 82 (23.7)  | 90 (25)  | 35 (11)  | 15 (7)   | 8 (6)    | 8 (6)     | 5 (4)      | 4 (4)      |
| Varenicline (%)**   | 15 (4)     | 65 (18)  | 90 (28)  | 64 (30)  | 46 (34)  | 40 (30)   | 38 (31)    | 33 (30)    |
| Used Electronic Cigarette in the past (%)**               | n/a        | n/a      | 16 (0.5) | 9 (4.2)  | 12 (9.5) | 22 (16.6) | 60 (49)    | 82 (75)    |
| Other (acupuncture, yoga) (%)                             | 17 (5)     | 21 (6)   | 9 (3)    | 4 (2)    | 3 (2)    | 4 (3)     | 5 (4)      | 2 (2)      |
| Concern about coverage of medication from insurance (%)** | 189 (55)   | 210 (58) | 230 (72) | 179 (84) | 119 (89) | 121 (92)  | 114 (93.4) | 104 (95.4) |

**Table 3:** Smoking cessation strategies from 2008 to 2015.

Changes between 2008 and 2015 \* $p = 0.02$ , \*\* $p < 0.001$

n/a: not applicable data

| Reasons for failure to quit smoking |             |             |            |            |            |            |            |            |
|-------------------------------------|-------------|-------------|------------|------------|------------|------------|------------|------------|
|                                     | 2008        | 2009        | 2010       | 2011       | 2012       | 2013       | 2014       | 2015       |
| Number                              | 217         | 228         | 200        | 133        | 85         | 84         | 77         | 68         |
| Strong Dependence                   | 114 (52.5%) | 124 (54.4%) | 98 (49.0%) | 66 (49.6%) | 40 (47.1%) | 41 (48.8%) | 35 (45.4%) | 30 (44.1%) |
| Anxiety- Economic Problems*         | 54 (24.9%)  | 62 (27.2%)  | 73 (36.5%) | 48 (36.1%) | 35 (41.2%) | 36 (42.9%) | 37 (48.1%) | 34 (50%)   |
| Other                               | 49 (22.6%)  | 42 (18.4%)  | 29 (14.5%) | 19 (14.3%) | 10 (11.7%) | 7 (8.3%)   | 5 (6.5%)   | 4 (5.9%)   |
| Reasons for relapse                 |             |             |            |            |            |            |            |            |
|                                     | 2008        | 2009        | 2010       | 2011       | 2012       | 2013       | 2014       | 2015       |
| Number                              | 35          | 34          | 34         | 22         | 14         | 12         | 12         | 11         |
| Strong Dependence                   | 18 (51.4%)  | 18 (52.9%)  | 17 (50.0%) | 10 (45.5%) | 6 (42.9%)  | 5 (41.7%)  | 5 (41.7%)  | 5 (45.5%)  |
| Anxiety Economic Problems**         | 9 (25.7%)   | 9 (26.5%)   | 11 (32.3%) | 7 (31.8%)  | 5 (35.7%)  | 5 (41.7%)  | 6 (50.0%)  | 6 (54.5%)  |
| Other                               | 8 (22.9%)   | 7 (20.6%)   | 6 (17.7%)  | 5 (22.7%)  | 3 (21.4%)  | 2 (16.6%)  | 1 (8.3%)   | 0 (0.0%)   |

**Table 4:** Reasons for failure to quit smoking and for relapse in the first 6 months between 2008 – 2015.

\*Linear-by-Linear association in increasing percentage of patients who answered that they did not quit smoking because of anxiety – economic problems over the years ( $P = 0.009$ )

\*\* Linear-by-Linear association in increasing percentage of patients who answered that they relapsed to smoking because of anxiety – economic problems over the years ( $P = 0.011$ )

## Discussion

The main finding of our study was that, in a smoking cessation clinic in northern Greece, the number of smokers visiting was reduced, the number of unemployed increased and the cost of smoking was the second main reason of smoking cessation. Smokers self-esteem was reduced over the years and this possibly affected their relapse rate after 6 months together with economic problems and anxiety. Smokers were concerned about the cost of the smoking cessation pharmacotherapy and their coverage from their insurance company. Greece has been affected by the financial crisis from 2008. It has been found that the income of more than 94.2% of Greek households has been significantly reduced from the beginning of the financial crisis and because of that, there was a reduction in expenses for basic goods (i.e. heating, clothing, entertainment) in more than 55% of households [19]. The prevalence of smoking in Greece has decreased from 43.1 (2006) to 38% (2014) [1,4]. However, the use of illegal, unknown quality tobacco products has been found to increase [20].

In this study, it was found that after 2010, the second most important reason for smoking cessation-after health problems- was the cost of smoking. It should be stated that the difficulty of smoking in public places was the least important reason, as the restrictions were not so strictly implemented in Greece. Additionally, most of the smokers were concerned for the coverage of the pharmacotherapy from their insurance company and some of them did not receive medications because they could not afford them. There was an increase in counseling only –no medication use during the last two years (2014-2015) (Table 4) especially in unemployed smokers. Additionally, during the last years more than 50% of the smokers have used electronic cigarette in the past. This is in accordance with data from eurobarometer showing that 85% of Greek ex-smokers and smokers who have tried to stop smoking in the last twelve months reported an attempt to quit without assistance, 8% with the assistance of electronic cigarette and only 1%(-1% from 2012) with the support of a doctor or other health professional in a smoking cessation clinic [1].

In 2015, about 40% of Greek households had at least one unemployed member and the main sources of income in 51.8% of households were pensions. We found a significant increase of unemployed smokers coming to the clinic and that unemployment was a factor that increased relapse rate. It has been found in previous studies that smoking prevalence is about 30% higher among unemployed people compared with the average population [21,22]. Job loss is a stressful life event and leads to reduced income but unemployed smokers use smoking as a mean to relax, they may give up their smoking cessation attempt or may relapse, as the rate of cessation failure is high among those during economic crisis [23-26]. The unemployment rates in Greece were the highest of Europe (25.7% in 2015) with young people's (15 - 29 years old) unemployment reaching to 45% in some areas [27].

Additionally, to the raise of unemployment, the reduction of personnel, the increased workload together with important wage reductions may lead to mood disorders, anxiety, depression, dysthymia and lower self-esteem [6,7]. This can be seen in our study as the score of the Rosenberg scale was significantly reduced over the years and it was associated with relapse rates. Furthermore, the percentage of smokers who reported that they did not quit or that they relapsed because of anxiety for economic reasons was much higher in the late years of crisis than in the earlier years.

There is controversial information about the role of the financial crisis on smoking. There are studies that suggest that economic crisis leads to an increase in tobacco use whereas others suggest the opposite [6-15,28,29]. The percentage of smoking fell in Greece during the years of economic crisis. National tobacco control legislations were enforced, as restrictions on outdoor advertising, smoke-free areas and most importantly tobacco products price and taxation increased. Increases in the price of tobacco were found to be effective for the reduction of cigarettes consumption, for the promotion of smoking cessation among current users and for the prevention of initiation and uptake among young [30]. On the other hand, higher prices lead smokers to consume cheaper tobacco products, such as hand-rolled cigarettes or illegal cigarettes, instead of smoking cessation [31].

An interesting finding of our study was the decreasing number of subjects visiting our clinic per year and the decreasing total score in Rosenberg questionnaire that reflects the widespread frustration in Greek population during the years of crisis [32]. Since there were no changes in promoting our smoking cessation clinic and the number of other smoking cessation clinics in our area was the same or even reduced the last 2 years, we believe that Greek people changed their behavior concerning their personal health, preferring to treat only life-threatening problems. In a recent study, the intention to quit in Greece has increased among both high and low socioeconomic strata, but quit attempts were more frequent in smokers of higher socioeconomic status [4]. In a study in Ukraine, it was found that in a low-income setting without efficient smoking cessation services the reduced cigarette affordability had limited effect in smoking cessation [33]. Additionally, it has been found that insurance coverage of treatment for smoking cessation resulted in higher cessation rates [34]. In our study however, the quitting and relapse rates did not differ between years, even with lower pharmacotherapy use the last years, possibly because the smaller number of smokers that visited the clinic were more determined to quit. However, the reasons of not quitting and relapse changed over the years with anxiety and economic problems been the most important from 2013.

The main limitations of the study was that it was retrospective and from a single smoking cessation clinic. However northern Greece is severely affected by the economic crisis with a high percentage of unemployment and families living under poverty. It would be interesting to see the changes in smoking behavior and in smoking cessation strategies in multiple Greek smoking cessation centers, but also in other countries affected by the crisis.

The governments should take in consideration that smoking is the major cause of premature illness and death and that smoking cessation with counselling and pharmacotherapy is cost effective. Apart from the direct costs of smoking-related illness, the economic cost of smoking can be attributed to healthcare expenditures for the treatment of active, but also passive smokers, premature mortality, and absence from work, even fires and environmental harm [34]. The austerity measures with important cuts of the public health revenues have affected the functioning of public hospitals and individuals' right to access health care [26]. Smoking cessation policies should be enforced from the governments even in the era of economic crisis.

### Conclusions

During the period of economic crisis fewer smokers visited each year our smoking cessation clinic with decreased self-esteem and higher unemployment rates. Economic problems and health issues were the main reasons for smoking cessation. Smokers, especially unemployed, could not afford pharmacotherapy the last years of the crisis. Low self-esteem, anxiety-economic problems and unemployment were associated with higher relapse rates.

### Conflict of Interest

None to declare.

### Authors Contribution

All authors contributed equally.

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### Bibliography

1. Special Eurobarometer 429. "Attitudes of Europeans towards Tobacco and Electronic cigarettes (2014).

2. Filippidis FT, *et al.* "Prevalence and determinants of tobacco use among adults in Greece: 4 year trends". *European Journal of Public Health* 23.5 (2013): 772-776.
3. Vardavas CI, *et al.* "Tobacco taxation: the importance of earmarking the revenue to health care and tobacco control". *Tobacco Induced Diseases* 10 (2012): 21.
4. Schoretsaniti S, *et al.* "5-Year trends in the intention to quit smoking amidst the economic crisis and after recently implemented tobacco control measures in Greece". *Addictive Behaviors* 39.1 (2014): 140-145.
5. Hellenic Confederation of Professionals, Craftsmen & Merchants (GSEVEE). Incomes and costs of households. Athens (2013).
6. Shiahpush M and Carlin JB. "Financial stress, smoking cessation and relapse: results from a prospective study of an Australian national sample". *Addiction* 101.1 (2006): 121-127.
7. Kendzor DE, *et al.* "Financial strain and smoking cessation among racially/ethnically diverse smokers". *American Journal of Public Health* 100.4 (2010): 702-706.
8. Shiahpush M, *et al.* "Smoking and financial stress". *Tobacco Control* 12.1 (2003): 60-66.
9. Shaw B, *et al.* "Are changes in financial strain associated with changes in alcohol use and smoking among older adults?" *Journal of Studies on Alcohol and Drugs* 72.6 (2011): 917-925.
10. Gallus S, *et al.* "Smoking in Italy 2008–2009: a rise in prevalence related to the economic crisis?" *Preventive Medicine* 52.2 (2011): 182-183.
11. Ruhm CJ. "Economic conditions and health behaviors: Are recessions good for your health?" *North Carolina Medical Journal* 70.4 (2009): 328-329.
12. Falagas ME, *et al.* "Economic crises and mortality: a review of the literature". *International Journal of Clinical Practice* 63.8 (2009): 1128-1135.
13. Parry J and Humphreys G. "Health amid a financial crisis: a complex diagnosis". *Bulletin of the World Health Organization* 87.1 (2009): 4-5.
14. McClure CB, *et al.* "Economic crisis and smoking behavior: prospective cohort study in Iceland". *BMJ Open* 2.5 (2012): e001386.
15. Ólafsdóttir T, *et al.* "The Icelandic economic collapse, smoking, and the role of labor-market changes". *European Journal of Health Economics* 16.4 (2015): 391-405.
16. Heatherton TF, *et al.* "The Fagerstrom Test for Nicotine Dependence: a revision of the Fagerstrom Tolerance Questionnaire". *British Journal of Addiction* 86.9 (1991): 1119-1127.
17. Rosenberg M. "Society and the adolescent self-image". Princeton, NJ: Princeton University Press (1965).
18. Schmitt DP and Allik J. "Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem". *Journal of Personality and Social Psychology* 89.4 (2005): 623-642.
19. Hellenic Confederation of Professionals, Craftsmen & Merchants(GSEVEE).
20. Martin Bassols N and Vall Castelló J. "Effects of the great recession on drugs consumption in Spain". *Economics and Human Biology* 22 (2016): 103-116.
21. Gallus S, *et al.* "Which group of smokers is more vulnerable to the economic crisis?" *Public Health* 134 (2016): 34-38.

22. Gallus S, *et al.* "Effects of the economic crisis on smoking prevalence and number of smokers in the USA". *Tobacco Control* 24 (2015): 82-88.
23. Leino-Arjas P, *et al.* "Predictors and consequences of unemployment among construction workers: prospective cohort study". *British Medical Journal* 319.7210 (1999): 600-605.
24. Falba T, *et al.* "The effect of involuntary job loss on smoking intensity and relapse". *Addiction* 100.9 (2005): 1330-1339.
25. Siahpush M, *et al.* "Smokers with financial stress are more likely to want to quit but less likely to try or succeed: findings from the International Tobacco Control (ITC) Four Country Survey". *Addiction* 104.8 (2009): 1382-1390.
26. Filippidis FT, *et al.* "Trends in cardiovascular risk factors in Greece before and during the financial crisis: the impact of social disparities". *European Journal of Public Health* 24.6 (2014): 974-979.
27. Hellenic Statistical Authority. The Greek Authorities.
28. Charles KK and Decicca P. "Local labor market fluctuations and health: is there a connection and for whom?" *Journal of Health Economics* 27.6 (2008): 1532-1550.
29. Arkes J. "How does youth cigarette use respond to weak economic periods? Implications for the current economic crisis". *Substance Use and Misuse* 47.4 (2012): 375-382.
30. International Agency for Research on Cancer: Effectiveness of Tax and Price Policies for Tobacco Control - IARC Handbooks of Cancer Prevention Lyon, France: International Agency for Research on Cancer (2011).
31. Gallus S, *et al.* "Smoking prevalence in Italy 2011 and 2012, with a focus on hand-rolled cigarettes". *Preventive Medicine* 56.5 (2013): 314-318.
32. Kowalski SD. "Self-esteem and self-efficacy as predictors of success in smoking cessation". *Journal of Holistic Nursing* 15.2 (1997): 128-142.
33. Leinsalu M, *et al.* "Reduced affordability of cigarettes and socio-economic inequalities in smoking continuation in Stakhanov, Ukraine, 2009". *European Journal of Public Health* 25.2 (2015): 216-218.
34. European Lung White Book.

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