

Suicide Rates and The Economic Crisis in Europe

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INTRODUCTION

Since 2008 a global economic crisis affects Europe. The World Health Organization (WHO) published its concerns over the crisis' impact on global health and several authors expressed concern on the effect of austerity on healthcare (1-14). These concerns although reasonable, they were often exaggerated and unsupported by data and disputed or even withdrawn later (15-19). However, and since there is no reasonable doubt that austerity and economic crisis certainly has an impact on at least some aspects of health care, mental health is believed to be at a higher risk to be affected by them. It is known that mental patients constitute a particularly vulnerable population. Among all the consequence of these possible adverse impacts on mental health, the most striking would be an effect on suicidality. Previous experience as well as the literature, have led to the wide belief that crises of this kind increase suicides (9,15,20-24). The experience from the Asian economic crisis of the 90s, has put a particular emphasis on the effect of rising unemployment (25,26). There are several studies published until now, suggesting a similar pattern concerning the impact of the economic crisis in European countries (7,9,27-36) and the US (33) although different interpretations also exist (18,19,37,38). However, it should be noted that most of these studies on European rates analyze the suicidal rates from 2007 on and not before, and thus fail to catch

the long-term trend. Also they focus exclusively on the possible effect of unemployment, thus neglecting other factors and they do not consider at all the temporal flow of socioeconomic events.

Suicide rates show a substantial variation between continents, countries and regions and this is particularly true for the countries of Europe. The reasons behind these great differences have not been identified. Geographic (latitude, longitude, altitude) climatic, dietary, genetic, economic, religious and other socio-cultural differences, registration issues and the availability of lethal methods seem to play a major role (39,40).

Although the data support a relationship between the suicide rate and the socioeconomic situation, this relationship is not that of a direct cause and effect. For example, in spite of claims that the rise in unemployment caused a rise of the suicide rate in the US (33), a closer look at the data revealed that suicides raised first and unemployment followed (38). One could argue that those people who are going to lose their jobs are stressed months before this happens, but 'fear' of unemployment is quite different from unemployment per se, especially since such an assumption suggests that employed people do commit suicide before they become unemployed.

When studying the possible causes of suicide, one should have in mind that suicide is probably the end result of an interaction between many different risk

factors. It is solidly proven that over 90% of people who die from suicide suffer from some kind of mental illness. Mood disorders are found in 80-85% (39-41) and schizophrenia in 9-13% of patients dying each year due to suicide (42). Other risk factors in the field of psychiatry also exist, including personality disorders and substance and alcohol dependence (43,44) and family history of suicide (43,45,46). Race and ethnic group (47), problematic coping skills (48), and environmental variables like recent psychosocial stress (49,50) and occupational problems or interpersonal problems with spouse or romantic partner (51) also constitute risk factors. The availability and the access to lethal means (e.g. firearms) might be of importance (40). Theoretically, any intervention that helps reducing these risk factors could ultimately reduce the suicidal rate; however this has not been solidly proven for most of these variables (39). Unfortunately research on suicide is limited by the fact that the majority of suicide victims die by the first attempt (52,53).

Probably most of the risk factors are likely to be dependent on the victim's behaviour and thus do not constitute independent factors (54), however the recent economic crisis constitutes a stress factor which is independent of the behaviour of the person, although persons with specific behaviours (e.g. great risk taking entrepreneurs) are likely to be more vulnerable to the crisis. On the other hand, specific cultures (e.g. Latinos in the US) are related with some kind of protective effects against suicidal behaviour (55). Adding to the above is the conclusion of a recent review that only the creation of social support networks reduces suicidality while the other interventions are of unproven effectiveness (56-59). Although it has been suggested that reduction of unemployment through governmental

action should lead to a reduction in suicidality (60), this remains an unproven theoretical suggestion.

In his seminal work in 1979, Brenner reported that for every 10% increase in unemployment there is an increase of 1.2% in total mortality, including an increase by 1.7% in suicidality (61). On the contrary, other authors suggested that recessions actually improve several health indicators (62-64). In the past, economic crises have been correlated with increases in suicides, like the Great depression (20,22,65,66), the Russian crisis in the early 1990s (32) (although the data are not published reliably) and the Asian economic crisis in the late 1990s (25,26).

Concerning the present economic crisis, it has been calculated that close to 5000 excess suicides occurred in the year 2009 around the world, with the increase conceding mainly men of working age, and with unemployment to constitute a direct causal factor (32). The methodology concerning this calculation is open to debate. A deterioration in mental health with increasing the depression and anxiety rates has been reported after the economic crisis in Hong Kong (67), south Australia (68), Greece (69), UK (14) and Spain (29), and the effect seemed more severe in population groups who experienced unstable employment or financial problems (29,67,68). However the methodology of these studies cannot differentiate between general distress and clinical mood disorders and thus any link of these results with the suicidal rates is problematic.

Finally, an important fundamental problem is that it is probably too early to arrive at conclusion concerning the impact of the current economic crisis on health, mental health and the suicide rate in particular. It seems necessary to wait until data at least until 2020 are gathered in order to have the complete picture available.

REFERENCES

1. Reeves A, McKee M, Basu S, Stuckler D. The political economy of austerity and healthcare: Cross-national analysis of expenditure changes in 27 European nations 1995-2011. *Health Policy* 2013.
2. Reeves A, Basu S, McKee M, Marmot M, Stuckler D. Austere or not? UK coalition government budgets and health inequalities. *J R Soc Med* 2013; 106:432-436.
3. McKee M, Balabanova D, Basu S, Ricciardi W, Stuckler D. Universal health coverage: a quest for all countries but under threat in some. *Value Health* 2013; 16(1 Suppl):39-45.
4. Karanikolos M, Mladovsky P, Cylus J, Thomson S, Basu S, Stuckler D, Mackenbach JP, McKee M. Financial crisis, austerity, and health in Europe. *Lancet* 2013; 381:1323-1331.

5. Suhrcke M, Stuckler D. Will the recession be bad for our health? It depends. *Soc Sci Med* 2012; 74:647-653.
6. Kentikelenis A, Karanikolos M, Papanicolas I, Basu S, McKee M, Stuckler D. Effects of Greek economic crisis on health are real. *BMJ* 2012; 345: 8602; author reply, 8.
7. Stuckler D, Basu S, Suhrcke M, Coutts A, McKee M. Effects of the 2008 recession on health: a first look at European data. *Lancet* 2011; 378:124-125.
8. McKee M, Stuckler D. The assault on universalism: how to destroy the welfare state. *BMJ* 2011; 343:7973.
9. Kentikelenis A, Karanikolos M, Papanicolas I, Basu S, McKee M, Stuckler D. Health effects of financial crisis: omens of a Greek tragedy. *Lancet* 2011; 378:1457-1458.
10. Stuckler D, Basu S, McKee M, Suhrcke M. Responding to the economic crisis: a primer for public health professionals. *J Public Health (Oxf)*. 2010; 32:298-306.
11. Stuckler D, Basu S, McKee M. Budget crises, health, and social welfare programmes. *BMJ* 2010; 340:3311.
12. Biggs B, King L, Basu S, Stuckler D. Is wealthier always healthier? The impact of national income level, inequality, and poverty on public health in Latin America. *Soc Sci Med* 2010; 71:266-273.
13. Stuckler D, Basu S, Suhrcke M, McKee M. The health implications of financial crisis: a review of the evidence. *Ulster Med J* 2009; 78:142-145.
14. Katikireddi SV, Niedzwiedz CL, Popham F. Trends in population mental health before and after the 2008 recession: a repeat cross-sectional analysis of the 1991-2010 Health Surveys of England. *BMJ Open* 2012; 2:5.
15. World Health Organization. Financial crisis and global health: report of a high-level consultation. WHO, 2009.
16. Smith H. WHO apologises for claiming half of Greek HIV infections are self-inflicted. *The Guardian*; 2013. <http://www.theguardian.com/world/2013/nov/26/who-apologises-hiv-infections-greece-self-inflicted>.
17. World Health Organization. Review of social determinants and the health divide in the WHO European Region: final report. (ed M Marmot). WHO, 2013.
18. Fountoulakis KN, Grammatikopoulos IA, Koupidis SA, Siamouli M, Theodorakis PN. Health and the financial crisis in Greece. *Lancet* 2012; 379: 1001-2; author reply 2.
19. Fountoulakis KN, Savopoulos C, Siamouli M, Zaggelidou E, Mageiria S, Iacovides A, et al. Trends in suicidality amid the economic crisis in Greece. *Eur Arch Psychiatry Clin Neurosci* 2013; 263:441-444.
20. Swinscow D. Some suicide statistics. *Br Med J* 1951; 1:1417-1423.
21. Milner A, Page A, LaMontagne AD. Duration of unemployment and suicide in Australia over the period 1985-2006: an ecological investigation by sex and age during rising versus declining national unemployment rates. *J Epidemiol Community Health* 2013; 67:237-244.
22. Morrell S, Taylor R, Quine S, Kerr C. Suicide and unemployment in Australia 1907-1990. *Soc Sci Med* 1993; 36:749-756.
23. Lester D, Yang B. The relationship between divorce, unemployment and female participation in the labour force and suicide rates in Australia and America. *Aust N Z J Psychiatry* 1991; 25:519-523.
24. Luo F, Florence CS, Quispe-Agnoli M, Ouyang L, Crosby AE. Impact of business cycles on US suicide rates, 1928-2007. *Am J Public Health* 2011; 101:1139-1146.
25. Chang SS, Gunnell D, Sterne JA, Lu TH, Cheng AT. Was the economic crisis 1997-1998 responsible for rising suicide rates in East/Southeast Asia? A time-trend analysis for Japan, Hong Kong, South Korea, Taiwan, Singapore and Thailand. *Soc Sci Med* 2009; 68:1322-1331.
26. Chang SS, Sterne JA, Huang WC, Chuang HL, Gunnell D. Association of secular trends in unemployment with suicide in Taiwan, 1959-2007: a time-series analysis. *Public Health* 2010; 124:49-54.
27. Anonymous. Sharp rise in suicides amid crisis. *ekathimerini.com* June 30, 2011. 2011. http://www.ekathimerini.com/4dcgi/_w_articles_ws1_1_30/06/2011_396649.
28. Economou M, Madianos M, Theleritis C, Peppou LE, Stefanis CN. Increased suicidality amid economic crisis in Greece. *Lancet* 2011; 378:1459.
29. Gili M, Roca M, Basu S, McKee M, Stuckler D. The mental health risks of economic crisis in Spain: evidence from primary care centres, 2006 and 2010. *Eur J Public Health* 2013; 23:103-108.
30. De Vogli R, Marmot M, Stuckler D. Excess suicides and attempted suicides in Italy attributable to the great recession. *J Epidemiol Community Health* 2013; 67:378-379.
31. De Vogli R, Marmot M, Stuckler D. Strong evidence that the economic crisis caused a rise in suicides in Europe: the need for social protection. *J Epidemiol Community Health* 2013; 67:298.
32. Chang SS, Stuckler D, Yip P, Gunnell D. Impact of 2008 global economic crisis on suicide: time trend study in 54 countries. *BMJ* 2013; 347:5239.

33. Reeves A, Stuckler D, McKee M, Gunnell D, Chang SS, Basu S. Increase in state suicide rates in the USA during economic recession. *Lancet* 2012; 380:1813-1814.
34. Barr B, Taylor-Robinson D, Scott-Samuel A, McKee M, Stuckler D. Suicides associated with the 2008-10 economic recession in England: time trend analysis. *BMJ* 2012; 345:5142.
35. Fountoulakis KN, Koupidis SA, Grammatikopoulos IA, Theodorakis PN. First reliable data suggest a possible increase in suicides in Greece. *BMJ* 2013; 347:4900.
36. Economou M, Madianos M, Peppou LE, Theleritis C, Patelakis A, Stefanis C. Suicidal ideation and reported suicide attempts in Greece during the economic crisis. *World Psychiatry* 2013; 12:53-59.
37. Fountoulakis KN, Siamouli M, Grammatikopoulos IA, Koupidis SA, Siapera M, Theodorakis PN. Economic crisis-related increased suicidality in Greece and Italy: a premature overinterpretation. *J Epidemiol Community Health* 2013; 67:379-380.
38. Fountoulakis KN, Koupidis SA, Siamouli M, Grammatikopoulos IA, Theodorakis PN. Suicide, recession, and unemployment. *Lancet* 2013; 381: 721-722.
39. Mann JJ, Apter A, Bertolote J, Beautrais A, Currier D, Haas A, Hegerl U, Lonnqvist J, Malone K, Marusic A, Mehlum L, Patton G, Phillips M, Rutz W, Rihmer Z, Schmidtke A, Shaffer D, Silverman M, Takahashi Y, Varnik A, Wasserman D, Yip P, Hendin H. Suicide prevention strategies: a systematic review. *JAMA* 2005; 294:2064-74.
40. Rihmer Z, Kantor Z, Rihmer A, Seregi K. Suicide prevention strategies--a brief review. *Neuropsychopharmacol Hung* 2004; 6:195-199.
41. Gray SM, Otto MW. Psychosocial approaches to suicide prevention: applications to patients with bipolar disorder. *J Clin Psychiatry* 2001; 62 (Suppl 25):56-64.
42. Meltzer HY. Suicide and schizophrenia: clozapine and the InterSePT study. *International Clozaril/Leponex Suicide Prevention Trial. J Clin Psychiatry.* 1999; 60 (Suppl 12):47-50.
43. Oquendo MA, Bongiovi-Garcia ME, Galfalvy H, Goldberg PH, Grunebaum MF, Burke AK, Mann JJ. Sex differences in clinical predictors of suicidal acts after major depression: a prospective study. *Am J Psychiatry* 2007; 164:134-141.
44. Comtois KA, Russo JE, Roy-Byrne P, Ries RK. Clinicians' assessments of bipolar disorder and substance abuse as predictors of suicidal behavior in acutely hospitalized psychiatric inpatients. *Biol Psychiatry* 2004; 56:757-763.
45. Cavazzoni P, Grof P, Duffy A, Grof E, Muller-Oerlinghausen B, Berghofer A, et al. Heterogeneity of the risk of suicidal behavior in bipolar-spectrum disorders. *Bipolar Disord* 2007; 9:377-385.
46. Hawton K, Sutton L, Haw C, Sinclair J, Harriss L. Suicide and attempted suicide in bipolar disorder: a systematic review of risk factors. *J Clin Psychiatry* 2005; 66:693-704.
47. Kupfer DJ, Frank E, Grochocinski VJ, Houck PR, Brown C. African-American participants in a bipolar disorder registry: clinical and treatment characteristics. *Bipolar Disord* 2005; 7:82-88.
48. Johnson MR, Lydiard RB, Morton WA, Laird LK, Steele TE, Kellner CH, Ballenger JC. Effect of fluvoxamine, imipramine and placebo on catecholamine function in depressed outpatients. *J Psychiatr Res* 1993; 27:161-172.
49. Leverich GS, Altshuler LL, Frye MA, Suppes T, Keck PE, Jr., McElroy SL, Denicoff KD, Obrocea G, Nolen WA, Kupka R, Walden J, Grunze H, Perez S, Luckenbaugh DA, Post RM. Factors associated with suicide attempts in 648 patients with bipolar disorder in the Stanley Foundation Bipolar Network. *J Clin Psychiatry* 2003; 64:506-515.
50. Leverich GS, McElroy SL, Suppes T, Keck PE Jr., Denicoff KD, Nolen WA, Altshuler LL, Rush AJ, Kupka R, Frye MA, Autio KA, Post RM. Early physical and sexual abuse associated with an adverse course of bipolar illness. *Biol Psychiatry* 2002; 51:288-297.
51. Tsai SY, Lee JC, Chen CC. Characteristics and psychosocial problems of patients with bipolar disorder at high risk for suicide attempt. *J Affect Disord* 1999; 52:145-1452.
52. Rihmer Z, Belso N, Kiss K. Strategies for suicide prevention. *Curr Opin Psychiat* 2002; 15:83-87.
53. Isometsa E, Henriksson M, Aro H, Heikkinen M, Kuoppasalmi K, Lonnqvist J. Suicide in psychotic major depression. *J Affect Disord* 1994; 31:187-191.
54. Isometsa E, Heikkinen M, Henriksson M, Aro H, Lonnqvist J. Recent life events and completed suicide in bipolar affective disorder. A comparison with major depressive suicides. *J Affect Disord* 1995; 33:99-106.
55. Oquendo MA, Dragatsi D, Harkavy-Friedman J, Dervic K, Currier D, Burke AK, Grunebaum MF, Mann JJ. Protective factors against suicidal behavior in Latinos. *J Nerv Ment Dis* 2005; 193:438-443.
56. Fountoulakis KN, Gonda X, Rihmer Z. Suicide prevention programs through community intervention. *J Affect Disord* 2011; 130:10-16.
57. Rihmer Z, Gonda X, Fountoulakis KN. Suicide prevention programs through education in the frame of healthcare. *Psychiatr Hung* 2009; 24:382-387.
58. Fountoulakis KN, Gonda X, Siamouli M, Rihmer Z. Psychotherapeutic intervention and suicide risk reduction in bipolar disorder: a review of the evidence. *J Affect Disord* 2009; 113:21-29.

59. Gonda X, Fountoulakis KN, Kaprinis G, Rihmer Z. Prediction and prevention of suicide in patients with unipolar depression and anxiety. *Ann Gen Psychiatry* 2007; 6:23.
60. Stuckler D, Basu S, Suhrcke M, Coutts A, McKee M. The public health effect of economic crises and alternative policy responses in Europe: an empirical analysis. *Lancet* 2009; 374:315-323.
61. Brenner M. Influence of the Social Environment on Psychology: The Historical Perspective. In: *Stress and Mental Disorder* (ed JE Barrett). Raven Press, 1979.
62. Why are recessions good for your health? *Natl Bur Econ Res Bull Aging Health* 2012: 1-2.
63. Ariizumi H, Schirle T. Are recessions really good for your health? Evidence from Canada. *Soc Sci Med* 2012; 74:1224-1231.
64. Ruhm CJ. Economic conditions and health behaviors: are recessions good for your health? *N C Med J* 2009; 70:328-329.
65. Stuckler D, Meissner C, Fishback P, Basu S, McKee M. Was the Great Depression a cause or correlate of significant mortality declines? An epidemiological response to Granados. *J Epidemiol Community Health* 2013; 67:467.
66. Tapia Granados JA, Diez Roux AV. Life and death during the Great Depression. *Proc Natl Acad Sci USA* 2009; 106:17290-17295.
67. Lee S, Guo WJ, Tsang A, Mak AD, Wu J, Ng KL, Kwok K. Evidence for the 2008 economic crisis exacerbating depression in Hong Kong. *J Affect Disord* 2010; 126:125-133.
68. Shi Z, Taylor AW, Goldney R, Winefield H, Gill TK, Tuckerman J, Wittert G. The use of a surveillance system to measure changes in mental health in Australian adults during the global financial crisis. *Int J Public Health* 2011; 56:367-372.
69. Economou M, Madianos M, Peppou LE, Patelakis A, Stefanis CN. Major depression in the era of economic crisis: a replication of a cross-sectional study across Greece. *J Affect Disord* 2013; 145:308-314.