

EFFECTS OF THE GLOBAL ECONOMIC AND JOBS CRISIS ON THE HEALTH STATUS OF THE ITALIAN AND SICILIAN POPULATIONS: FROM THE OCCUPATIONAL MEDICINE TO NOT OCCUPATIONAL MEDICINE?

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ABSTRACT

The economic crisis that started in 2008 in many countries of the world, has resulted in the reduction of many jobs in all the regions of Italy, most especially in the Southern part of the Country. The employment difficulties experienced by both the unemployed and employed workers, experiencing increasingly precarious conditions, will inevitably result in a worsening of psycho-physical conditions of the population; especially as an increase in stress-related diseases. Aims: The aim of this study is to point-out the possible effects of the economic crisis on the health status of the population resident in Italy and Sicily, evaluating data from years preceding and following the year 2008. Methods: We have selected two populations: the first comprising the inhabitants of the Italian territory, the second comprising the inhabitants in the Sicilian territory. We evaluated official statistical data regarding demographics, information about lifestyles that can cause cardiovascular diseases, and also statistical data about job accidents and occupational diseases. We also investigated the use of antidepressant drugs, as indicators of psychological distress and metabolic diseases in the two populations. Results: Data analysis shows an overall increase of people migrating to foreign countries, increased unemployment for all age groups, with dramatic spikes in Sicily, and degenerating lifestyles associated with increasing numbers of subjects suffering from depression, diabetes and ischemic heart disease, although treatments and prognosis have improved. Work-related accidents only have been significantly reduced, while at the same time reports of occupational diseases increase. Conclusions: It is necessary to change economic policies and development throughout the country; especially in the Southern regions, in order to substantially improve the mental and physical health of the population.

Key words: Economic crisis, unemployment, mental depression, cardiovascular diseases.

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Introduction

The economic crisis that has affected most industrialized nations since 2008 has resulted in a depletion of resources and production facilities in Italy generally and especially in the Southern regions which have always been burdened by poor development conditions.

In particular, in Sicily has gradually reduced the number of companies in different sectors, with the consequent loss of jobs and increase of unemployment levels for all ages, with conceivable impact on the state of mental and physical health of the populations involved⁽¹⁻⁴⁾.

The analysis of what happened in the past in other countries, such as during the crisis occurred in

Argentina in 2001 and in recent years in Greece, shows that the state of discomfort created by the social context has influence inevitably on welfare, causing diseases such as anxiety or depression, with the consequent increase in the consumption of anxiolytic and antidepressant, or cardiovascular diseases, on which the stress, also work-related one, plays an undeniable role⁽⁵⁻¹²⁾.

The evaluation of demographic data such as young people who emigrate, are not in school or do not look for work indicates a state of distrust that the younger generations have about the future; both with regards to employment and in terms of the realization of lifetime goals such as the formation of new families⁽¹³⁻¹⁵⁾.

For years we have been witnessing profound changes in the world of work. Contractual relations have become more flexible with the progressive disappearance of permanent contracts and the decreasing demand for staff due to asset mechanization and relocation of production sites to countries with lower labor costs. Therefore, it is increasingly difficult to find career paths leading to better economic conditions.

Gender differences are also significant. Women are still discriminated against because they have to reconcile work with family commitments such as caring for children or elderly parents⁽¹⁶⁾.

Although we assume that the demand for health care increases due to increases in average age and psychological distress associated with economic insecurity, on the contrary we see a reduction of requests for care because many people cannot afford treatment especially in areas such as dentistry and ophthalmology where they pay the total cost⁽¹⁷⁾.

Moreover, the lack of resources leads to characteristics of less healthy lifestyles such as increased consumption of low price high carbohydrate foods associated with higher risk of diabetes. Increases in fat consumption, decrease fruits and vegetables consumption causing protein deficiencies along reduction of sports activity, all affecting the cardiovascular system.

The purpose of this paper is to identify possible effects of the economic crisis on mental and physical health of the populations of Italy and Sicily through the analysis of: demographic indicators, employment and lifestyle data, the prevalence of mental and cardiovascular system diseases, assessing the changes in the period preceding and following the start of the 2008 crisis. Future health expectations will also be considered.

Methods and methods

Demographic data from National Statistics Institute (ISTAT) related to Italian and Sicilian populations covering the period before and following 2008, roughly 2002 to 2012, were analytically and precisely evaluated: the number of residents and migrants, including births and deaths; the number of marriages and separations; and also data related to the number and of percentage of workers in the various sectors.

This investigation is being undertaken because there are indications that lifestyles are determinates

of the primary metabolic and cardiovascular diseases. Lifestyles such as fruit and vegetable consumption, overweight and obesity, physical activity, habits of cigarette consumption. The investigation is based on data provided by the monitoring system "PASSI" of the National Institute of Health for the period of 2009-2012. We will also analyze data about such habits for the years prior to the 2008 crisis⁽¹⁸⁻²¹⁾.

Subsequently, we studied data on various indicators of health status over the decade for the two populations. Specifically: the number of reported occupational diseases and accidents at work recorded by INAIL (National Institute for Insurance against Accidents at Work); consumption of antidepressants in the last ten years recorded by AIFA (Italian Medicines Agency) and the number of suicide cases in recent years; data from National Statistics Institute (ISTAT) databases on disturbances of the psychic sphere and on prevalence of cardiovascular events, which are both related to stress and diabetes; diseases closely linked to lifestyle and greatly affecting the causes of ischemic heart diseases⁽²²⁻²³⁾.

Results

Demographic data

Analysis of changes in ISTAT data of the composition of resident population in Italy during the years 2002-2011 shows a substantial growth in total numbers from 56,987,597 to 59,433,744 (4.29%). The increase is associated with: increase in foreign presence (births and immigration) that has tripled in the past decade, raising from 1,341,209 to 4,027,627 (200.29%). Similarly, on a Sicily regional scale, where the total resident population increased from 4,972,124 in 2002 to 5,049,680 in 2011 (1.56%), foreign residents increased from 50,890 to 146,554 (187.98%)⁽²⁴⁾.

Analysis of emigration populations is less precise than resident foreign population. ISTAT data may be an underestimation because many people move to other countries looking for work with tourist visas without removing their municipal residence.

It has been argued that in 2012 the number of Italians who moved abroad in search of work amounted to 200,000 (of which 70% were youths)⁽²⁵⁾.

We then look at other indicators that may be relevant to employment and economic issues: num-

ber of marriages, divorces and separations, both domestically and regionally. For the period 2002-2012: a reduction of 23.2% in total weddings, especially in the years between 2008 and 2012; an increase in the number of separations and divorce rates in the country between 2002 and 2009. In the period 2002 and 2009 (the years of the largest available official data), separations changed from 256.5 to 296.9 per thousand marriages; divorces changed from 130.6 to 180.8 per thousand marriages⁽²⁶⁻²⁷⁾.

Arguably the official figures understate the reality. Often economic difficulties require the cohabitation of individuals, who cannot afford to maintain two houses, leading to repercussions on their health, especially psychological.

Employment data

Analyzing the data in Table 1, we see significant variation in the composition of labor in the business sections of Italy. There has been a substantial decrease in employment in agriculture and industry, benefiting the service sector.

Year	Agriculture	Industry	Services	Total workers
2001 Italy	1.015.000 (4.62%)	6.762.000 (30.78%)	14.187.000 (64.59%)	21.964.000 (100%)
2001 Sicily	109.000 (7.55%)	255.000 (17.68%)	1.078.000 (74.75%)	1.442.000 (100%)
2007 Italy	924.000 (3.97%)	7.003.000 (30.15%)	15.295.000 (65.86%)	23.222.000 (100%)
2007 Sicily	121.000 (8.13%)	291.000 (19.55%)	1.076.000 (72.31%)	1.488.000 (100%)
2011 Italy	851.000 (3.70%)	6.538.000 (28.46%)	15.579.000 (67.83%)	22.968.000 (100%)
2011 Sicily	115.000 (8.03%)	247.000 (17.24%)	1.070.000 (74.72%)	1.432.000 (100%)

Table 1: Data from the National Institute of Statistics (ISTAT) on employment in Italy and Sicily in the years 2001-2011.

The same is not true for Sicily. In this territory, the percentage distribution of workers has remained fairly constant across the three sectors; especially in the agriculture and service sectors that traditionally provided the greatest employment when compared with industry. Industry did not show any significant change in employment.

The latest national data released by ISTAT for the year 2013 show the number employed 22,420,000, a decrease of 2% on an annual basis when compared with 22,899,000 in 2012. Those employed in Sicily in 2013 were 1,321,000 versus 1,394,000 in 2012, a decrease of 5%⁽²⁸⁻³⁰⁾.

As can be seen in Table 2 data, the employment rate in Italy was 55.6%, a decrease of 1.9% when compared with 2012.

Year	Occupation rate age 15-64	Unemployment rate age 15-64	Unemployment rate age 15-24
2002 Italy	57.40%	8.50%	22%
2002 Sicily	43.90%	20.60%	44.10%
2008 Italy	58.70%	6.70%	21.30%
2008 Sicily	44.10%	13.80%	39.30%
2012 Italy	56.70%	10.70%	35.30%
2012 Sicily	41.20%	18.60%	51.30%
2013 Italy	55.60%	12.20%	40.00%
2013 Sicily	39.30%	21%	53.80%

Table 2: Data from the National Institute of Statistics (ISTAT) on employment rate in Italy and Sicily in the years 2002-2013.

The number of unemployed was 3,113,000 compared to 2,744,000 in 2012, an increase of 13.4% on an annual basis.

The 2013 unemployment rate for all ages in Italy was 12.2%. This represents a 12 month increase of 1.5%. There were 655,000 unemployed between the ages of 15 and 24; i.e. 40%, and increase of 4.7%.

The national employment rate of women, however, a reduction in the 46.5% compared to 47.1% in 2012, it is still far from the 64.8% recorded among men, even in this declining since 2012 was 67.5%.

If national data are not exciting, the Sicilian regional data are worse because in 2012 workers were 1,394,000, with an employment rate at 41.2%, and in 2013 1,321,000 i.e. 39.3% of people employed, with an unemployment rate that is growing for all ages by 2.5% on an annual basis and that the class of 15 to 24 years olds arrives at 53.8%.

Data related to lifestyle

Lifestyle affects such as physical activity on the cardiovascular system were analyzed using ISTAT data provided by the "PASSI" monitoring system. Between the years 2009-2012, 33% of respondents 18-69 years of age can be classified as active; 36% as partially active, and 31% as sedentary⁽³¹⁾.

Sedentary lifestyle: significantly more frequent in the older age group, 35% 50-69 years of age; women 33%; people with many economic difficulties 41%. The same monitoring system used in the same period reveals that in Italy two in five adults (42%), predominantly male, residing in Southern Italy, in economic difficulty and overweight; 31% are overweight and 11% obese⁽³²⁾.

In Italy, almost half of the adults (49%) surveyed in 2009-2012 by the PASSI system consumed three or more daily servings of fruit and vegetables. Only one in ten (10%), mostly women subjects, college graduates and without economic problems consume the recommended amounts in accordance with the guidelines for a health diet, that is five portions per day⁽³³⁾.

Regarding cigarette smoking, what the "PASSI" data from 2009 to 2012 shows: the majority of adults in Italy (53%) do not smoke tobacco cigarettes or have stopped (19%). Smoking is prevalent in 28% of the population. Among 'prevalent smokers', one in three (or 8% of general population) smoke more than a pack of cigarettes a day⁽³⁴⁾.

The amount of smoking is higher for people reporting greater economic difficulties (37%); higher for men (33%) than women (24%), greater in the center-south of Italy, and lower among college graduates (22%)

Comparing the data before the crisis: there is an increase in the amount of smoking and obesity. There is a significant reduction in the consumption of fruits and vegetable. The number of individuals who practice physical activities remains largely unchanged⁽¹⁸⁻²¹⁾.

Healthcare data

Tables 3-8 compare workplace accidents and occupational diseases in Italy and Sicily. Tables 3 and 4 show a substantial decrease in both complaints of workplace injuries and in itinere. The reduction in the number of complaints exceeded the numerical reduction of the labor force⁽³⁵⁻³⁸⁾.

Year	Number of complaints of injuries	Number of injuries at work found positive	Number of injuries in itinere found positive	Total injuries found positive	Number of fatal injuries at work	Number of fatal injuries in itinere	Total of fatal injuries
2008	874.94	582.591	83.114	665.705	844	276	1.12
2012	744.916	428.96	67.119	496.079	589	201	790
Percentage change	-14.86%	-26.37%	-19.24%	-25.48%	-30.21%	-27.17%	-29.46%

Table 3: Trend of occupational accidents in Italy in the period 2008-2012 (data from the National Institute for Insurance against Accidents at Work).

The negative trend, although to a lesser degree, had already appeared beginning in 2004 (see Table 5). This trend is probably due to cultural awareness resulting from training and information about workplace safety.

The same reduction in the number of cases did not occur for occupational diseases (Table 6).

This can be explained in part by the emergence of political denunciation of occupational diseases, especially in the agriculture and construction sectors. Also, the introduction in 2008 of a new table, which highlighted diseases not previously tabulated and were underestimated, especially those affecting the upper limb and spine.

Year	Number of complaints of injuries	Number of injuries at work	With means of transport	In itinere	Fatal injuries
2008	35.658	29.922	2.214	3.454	76
2012	28.805	23.659	1.991	3.155	44
Percentage change	-19.21%	-20.93%	-10.07%	-8.65%	-42.10%

Table 4: Trend of complaints of workplace accidents in Sicily in 2008-2012 (data from the National Institute for Insurance against Accidents at Work).

Years	Number of complaints of injuries	Number of injuries at work found positive	Number of injuries in itinere found positive	Number of fatal injuries at work	Number of fatal injuries in itinere
2004 Italy	695.312	494.248	59.617	738	249
2006 Italy	833.570	464.423	65.446	844	242
Percentage change	19.88%	-6.03%	9.77%	14.36%	-2.81%
2004 Sicily	28.467	19.467	1.163	47	11
2006 Sicily	28.694	19.348	1.884	62	11
Percentage change	0.79%	-0.61%	61.99%	31.91%	/

Table 5: Trend of occupational accidents in Italy and in Sicily in the period 2004-2006 (data from the National Institute for Insurance against Accidents at Work).

In the whole country there has been an increase in both reports and recognized occupational disease (Table 6), and in Sicily there was an increase in complaints (Table 7). However, there was a reduction in the acknowledgement of diseases for all sectors in Sicily (Table 7).

The differences in occupational disease data for the period prior to 2008 is shown in Table 8⁽³⁹⁻⁴⁰⁾.

Analyzing the possible effects of the crisis on the health of all citizens, workers and not workers, it is necessary to consider psychic and cardiovascular pathologies, which are often associated with stress.

The use of antidepressant drugs in recent years has increased by 4.5%⁽⁴¹⁾. Consumer associations (Codacons) also recorded a difference in the consumption of these drugs between North and South Italy: Sicily 1,110 recorded in daily doses per 1000 inhabitants, compared with 743.1 daily doses of Bolzano, the 864.9 of the Province of Trento and

the Ligurian 881.9⁽⁴²⁾. The surveillance system "PASSI" of Institute of Health notes that depressive symptoms are increased with increasing age (8%), in females (9%), among people with a low or no educational qualifications (12%) among those with many economic difficulties (15%) or without a regular job (9%), with no major differences between North and South⁽⁴³⁾.

Year	Number of complaints of occupational diseases	Industry and Services	Agriculture	State employees	Found positive for all sectors
2008	31.473	29.19	1.863	420	9.326
2012	47.417	39.057	7.861	499	17.384
Percentage change	50.65%	33.80%	321.95%	18.80%	86.40%

Table 6: Trend of occupational diseases on the national territory in the period 2008-2012 (data from the National Institute for Insurance against Accidents at Work).

Year	Number of complaints of occupational diseases	Industry and Services	Agriculture	State employees	Found positive for all sectors
2008	1.010	926	66	18	578
2012	1.376	1.269	90	17	294
Percentage change	36.23%	37.04%	36.36%	-5.55%	-49.13%

Table 7: Trend of occupational diseases in Sicily in 2008-2012 (data from the National Institute for Insurance against Accidents at Work).

Year	Number of complaints of occupational diseases	Industry and Services	Agriculture	State employees	Found positive for all sectors
2002 Italy	26.798	25.501	1.033	264	9.126
2006 Italy	26.403	24.673	1.417	313	6.322
Percentage change	-1.47%	-3.24%	3.71%	18.56%	-30.72%
2003 Sicily	812	751	61	/	174
2006 Sicily	761	724	37	/	194
Percentage change	-6.28%	-3.59%	-39.34%	0	11.49%

Table 8: Trend of occupational diseases in Italy in the period 2002-2006 and in Sicily in the period 2003-2006 (data from the National Institute for Insurance against Accidents at Work).

As for the number of suicides, which chronicles the daily record growth, we have the official ISTAT data only up to 2010, which already show an increase in the phenomenon from 2007 to 2010, probably related to the problems of the working world: in fact, in the three years the number of suicides has increased by 34% among the unem-

ployed, 19% of the employed and 13% among people retired from work. It is important to note, however, as to these three categories, the suicides have decreased throughout the period 1995-2008, to increase in the following two years⁽⁴⁴⁾.

Let us now analyze the data for darker conditions related to stress, first of all ischemic heart disease, the most common of the cardiovascular diseases. In Italy there are approximately 5 million patients and 242,000 people die from cardiovascular disease, the primary cause of death in Italy. They are in fact responsible for more than 4 out of 10 deaths (44% of the total). Nearly 30% of these deaths (about 73,000) are due to myocardial infarction, as shown by the latest data from the Institute of Health and ISTAT, which refer to 2009. During the last decade there has been an increased incidence of cases, but a significant reduction in the number of deaths⁽⁴⁵⁾. In fact, the in-hospital mortality from cardiovascular disease, which currently stands at around 10%, only 10 years ago was 30%.

In particular, myocardial infarction each year affects about 200,000 people, of whom only 50% went to the hospital: 20% immediately, 10% within 2 hours of the first symptoms, 20% will come after 12 hours when the time window useful for useful therapies to open occluded coronary artery is exhausted. The other 50% either dies before (44%) or has an asymptomatic heart attack. The other cardiac events are the most frequent nonfatal myocardial infarction, unstable angina and sudden cardiac death. Data from the National Institute of Health shows that in the North there is an incidence rate of 221.5 per 100,000 males and 93 per 100,000 women, the center of 228 per 100,000 males and 100.2 per 100,000 women in the South and the incidence rate is 238,9 per 100,000 males and 104.2 per 100,000 women. With regard to the pathology of diabetes, ISTAT data show an upward trend in the last two decades, with a prevalence in the general population from 1993 to 2010 rose from 3% to nearly 6%, with a composition represented by a spatial variation in the same period in the North from 2.8% to 4.4%, from 3.9% in the Centre and in the South to 4.8% from 3.9% to 5.8%⁽⁴⁵⁾.

Discussion

Analysis of the results shows an Italian resident population numerically stable, with an increase of foreign residents; a growing number of people moving abroad, increase separating or divorcing persons

and less people get married. Unemployment is rising for all age groups and becomes worrisome in the age group 15-24 years and in the South; the percentage composition of the various areas of work remains largely unchanged, with a slight decrease in Italy of the employed in agriculture and industry for the benefit of the tertiary sector. Lifestyles, which may foreshadow the determinism of various diseases, are often incorrect: increase sedentary and overweight persons, there is a moderate consumer of health foods for their high cost, there are many smokers, especially in the categories economically and culturally more fragile and in the center-south.

The data of the health in all work sectors show a significant reduction in accidents at work and, on the contrary, an increase in all areas of occupational diseases reported and verified on national territory. In the Sicilian region, in contrast, there has been a reduction of confirmed occupational diseases, although an overall increase in complaints.

Mental depression is growing both in Italy and in Sicily, where it's recorded the highest consumption of antidepressants. Even suicides show an increase in incidence.

Many researches have revealed that people with experience of unemployment, impoverishment and family disruptions have a significantly greater risk of mental health problems, such as depression, alcohol use disorders and suicide, than their unaffected counterparts⁽⁴⁶⁾. Investing in mental health, creating jobs and economic development means improving the overall health status of the people.

Ischemic heart disease remains the leading cause of mortality, although mortality from myocardial infarction has been reduced from 30% to 10% in the first decade of the millennium. In contrast, people with diabetes increases. In addition, the limited economic opportunities induce more fragile layers of the population to give up often to care.

In light of this analysis in the context of economic productivity, which may therefore be the expectation in terms of health for the general population and Italians workers and especially in the south-central regions, given the difficulties that workers increasingly draw a gap the north-central? But above all, how can the trend of the labor market be reversed, even in areas where excessive bureaucracy, a not always correct and relevant territorial management policy, co-existence with criminal associations that afflict the South, are borne not just in the take-off for the development?

It is usual to trace the crisis to the collapse of the financial system, banking and credit intermediaries (American subprime mortgages in 2007) but a deeper analysis has to reflect on the roots of the oldest and perhaps an eventual crisis of development models implemented in twentieth century as well as the ability to create alternative models to those hitherto followed. The questions are definitely related to how to create new jobs, even in reference to the needs of a population that evolves, perhaps with the development of internationalization and the exaltation of the special resources of an area, counteracting the phenomenon of homogenizing globalization and encouraging entrepreneurship also to remain in the country.

Also, consider raising the retirement age, as well as the hiring freeze in the public administration has been in place for many years, will create fewer jobs for all ages, but especially for young people.

The exercise of Occupational Medicine, which is often pointed out as part of health surveillance, many of the diseases considered here and / or susceptibility to contracting them, is hindered by the crisis that hit mainly, but not exclusively, the small and medium enterprises that, due to economic constraints, it is increasingly contracting with the closure of many daily production units.

The result is an overall impoverishment of the territory, also in the acquisition of data on the health of workers and as regards secondary prevention interventions that occupational physicians play in their business.

Finally, it would be appropriated, for statistical purposes, in the medical records of all branches of medicine, to devote greater attention to occupational history of patients, to detect the role of occupational risk factors in the prevalence and incidence of many diseases, such as work-related stress, which can contribute to cause or aggravate many pathological conditions.

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