

Implications of modified food choices and food-related lifestyles following the economic crisis in the Marche Region of Italy

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Key words: Economic crisis, food choices, diet habits, human health

Parole chiave: Crisi economica, scelte alimentari, abitudini alimentari, salute umana

Abstract

Background. The economic crisis in Italy has led to profound changes in resource management not only at the macro level but also for individual families, causing substantial changes in different habits of Italians.

Study design. The purpose of this research was to conduct a study on changes in family eating habits potentially triggered by the economic crisis was conducted in an area of the Marche Region in central Italy.

Methods. The research was conducted in the period 2016 - 2017 by administering a specific and anonymous questionnaire.

Results. The interviewed people has reduced its food consumption. In particular, analyzing the results for the animal protein food group, there has been a reduction in purchase of beef, and an increase in that of pork. Overall fish consumption has decreased by 44%, with a decrease in the purchase of fresh fish, and an increase in that of canned fish products. Finally, consumers have reduced their purchases of fresh and canned legumes, fresh vegetables, and fresh fruit.

Conclusions. The economic crisis seems to have changed the eating habits and food-related lifestyle choices of the subjects studied, especially in the urban area affected by the deeper economic depression. These changes are likely to have permanent social consequences, and deserve to be analyzed also in smaller territories in order to better understand the dynamics of individual choices and the social framework.

Introduction

The great economic crisis which, beginning 2009, has profoundly changed the structure of contemporary society, has definitely had a global impact. In 2009, for the first time since World War II, there was a reduction in world output, with an even greater drop in

industrial production and a double-digit fall in trade volumes, thus making this recession comparable to the initial phase of the Great Depression of the '30s (1). In the past, the economic recessions were associated with effects on health: poorer diet intake, physical activity reduction, suicides, coronary heart diseases (CHD) (2-6).

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Italy is among the countries with a particularly pronounced reduction in gross domestic product, and this decline has had significant consequences for the economic conditions of individual citizens. The crisis in Italy has led to profound changes in resource management not only at the macro level but also for individual families.

This has been especially evident in the substantial changes in the eating habits of Italians, away from the healthy traditional Mediterranean diet. Another impact of the worsened economic conditions is that consumers, especially those with lower incomes, have made a substantial shift from classic points of sale to hard discount stores or hypermarkets, especially for noble foods such as meat, and thus possibly purchasing lower quality products.

To understand how changes in consumption induced by the economic crisis may impact the health of the population, two considerations should be taken into account. First, it can be assumed that the purchase of lower quality foods may entail a reduced intake of vitamins, trace elements such as mineral salts, fatty acids, which are found more often in fresh and higher quality food. Second, consumers whose incomes have been reduced may arbitrarily also suspend or modify drug therapies to save money, thus increasing the risk of therapeutic ineffectiveness or drug and food supplement abuse (7).

To analyze these problems, a study of changes in family eating habits potentially triggered by the economic crisis was conducted in an area of the Marche Region in central Italy.

In particular, the present paper concerns the changes in food modification and life style decisions.

Methods

The research was performed in the period 2016 - 2017 by administering a specific

and anonymous questionnaire prepared by the National Institute of Statistics and modified by the University of Camerino, Pharmacy and Health Products School, Research Center for Environmental, Health and Hygiene Studies.

The questionnaire design was validated by administering it to 15 people of different social/economical and cultural status to value the 'face validity': this group of people was asked to complete the questionnaire and to report unclear or ambiguous questions, providing suggestions for improvement (8, 9).

Once validated, the questionnaires were distributed to junior highschool students rather than senior highschool students, inasmuch as the former better represent a full range of socioeconomic backgrounds in the cities of Camerino, Fabriano, and Civitanova Marche, in the Marche region (Italy); such cities represent a cross section of social, economic and cultural realities of the Region, to provide a statistically representative sample of families in the geographic area served by the University of Camerino.

In the cities, when more than one junior highschool were present, a random sampling was carried. The questionnaires were distributed to students, with instructions for parents on how to fill them, and, when returned, processed in an Excel Workbook (Microsoft Office), and analyzed using SPSS 20 (SPSS Inc.).

The questionnaire consists of five sections: "Social and anagraphic data", "Change of the style of life" (*physical activity, consumption of alcohol, smoking, consumption of drugs and the need to undergo medical examinations*), "Change in eating habits" (*regarding the amount of food products bought, the type of stores and the general variation of purchases observed with the increase of prices*), "Details of consumption" (*how food consumption changed in relation to specific food categories*), "The psychological profile of the subjects" (*the level of satisfaction with one's personal life*).

Results

A total of 1860 questionnaires were distributed and 1091 were returned (58.7%), but about 10% of these were blank or completed incorrectly (192 blank, 19 invalid because of obvious tampering with the paper or loss of anonymity). Thus the study analyzed 880 correctly completed questionnaires, 47.3 % of the total number of those distributed.

Table 1 - General characteristics of the sample.

General Characteristic of the sample	n.	%
<i>Sex</i>		
Males	310	35.2
Females	570	64.8
Total	880	100.0
<i>Age of respondent</i>		
≤ 20	25	2.8
21-30	6	0.7
31-40	43	4.9
41-50	504	57.2
51-60	283	32.2
>61	19	2.2
Total	880	100.0
<i>Qualification</i>		
No qualification	3	0.3
Primary School	24	2.7
Junior Highschool	233	26.5
Senior Highschool	462	52.5
University Degree	117	13.3
Ph.D./Master	25	2.9
No answer	16	1.8
Tot.	880	100.0
<i>Role in the family</i>		
Head of family	394	44.8
Spouse or cohabitant	451	51.2
Sibling	27	3.1
Other relative	4	0.5
Other (servants, valets, friends, etc.)	4	0.5
Total	880	100.0

The Table 1 shows the general characteristics of the people who completed the questionnaire and the % reductions in consumption of major food groups are reported in Figure 1.

As showed in Figure 1, it can be concluded that the population has reduced its food consumption. In particular, analyzing the results for the “animal protein food group”, there has been a reduction in purchase of beef, and an increase in that of pork. Overall fish consumption has decreased by 44%, with a decrease in the purchase of fresh fish, and an increase in that of canned or vacuum packed fish products.

Regarding cheese, the purchase of aged, more expensive cheese, has gone down, while that of fresh cheese has gone up. Comparing pasta and bread, pasta and milk have undergone a similar reduction, but pasta has been the most penalized. Finally, consumers have reduced their purchases of fresh and canned legumes, fresh vegetables, and in season and out of season fresh fruit, with a particularly marked decrease in purchases of canned legumes and both in season and out of season fruit.

Analysis of our data has highlighted some lifestyle changes regarding food. There has been a marked reduction in eating out (Figure 2a), consumption of alcoholic beverages (Figure 2b) and purchase of ice cream or sweets in general (Figure 2c). There has also been a significant reduction in purchase of oils and fats (Figure 2d).

The subjects were also asked to indicate what kind of supermarket they usually went to for their purchases of bread, pasta, meat, fish and fruit/vegetables after the price increases.

Respondents could choose between hard discounters (such as Eurospin or LIDL), shopping centres (such as Auchan), supermarkets (such as Conad and Coop) and the traditional shops and street markets. About a quarter of the subjects (27%) usually bought meat at hard discounters,

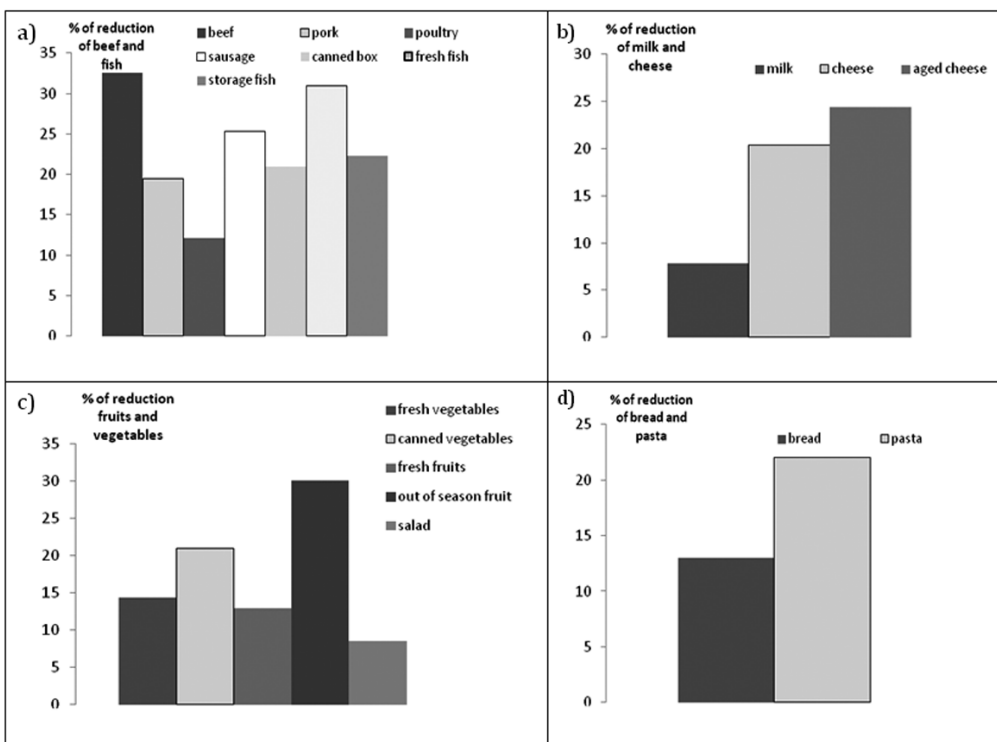


Figure 1. The % reductions in consumption of: a) beef and fish; b) milk and cheese, c) fruits and vegetables and d) bread and pasta.

which appear to be the major market for lower-cost foods like fruits and vegetables (29% hard discount versus 17% traditional shops). For fish, there is a balance between the different markets, while bread (39%) was preferably purchased in medium-sized supermarkets.

Concerning the questions about the quality and quantity of foods purchased, they could choose from the following answers: a) continued to buy the same or better quality food, and the same or greater quantity, b) limited the quantity without reducing the quality, c) chose inferior products, without changing the amount, d) chose lower quality products (but still good) but limited the amount, e) changed the type of product (eg. pork instead of beef) but without changing the amount.

While most of the subjects preferred not to change the quality of food purchased, they significantly reduced the amount of meat and fish and, to a lesser extent, bread and pasta. It is worth noting that about a tenth of respondents, probably corresponding to the economically poorer stratum, significantly reduced both quality and quantity of food purchased.

The results obtained were analyzed taking into account the social and economic differences. It is interesting to note that in the urban cities struck by the economic crisis (as Fabriano), the indexes of reduction in purchases are even more marked. For example, Fabriano has suffered the closure of factories central to the economy of the city, with consequent closure of smaller businesses that served the factories, and the

city's general economy has been severely harmed. In contrast, Civitanova Marche, a coastal city popular for its beaches and small businesses, has fared better during the general economic downturn. For example, the percentages regarding quantity of beef consumed in the zones most hurt by the economic crisis passed from 41.6% to 34.3%, but those regarding quality passed from 7% to 4%.

It should be noted that the high percentage of answers left blank affected the final analysis of the data. It is possible that respondents were uncomfortable admitting their economic difficulties to themselves or their families.

Discussion and Conclusions

This epidemiological study has highlighted some relevant features about the population interviewed as a sample that deserve to be analyzed.

Interesting results have emerged about the eating habits of the respondents. In summary, the worsened economic and social conditions have affected the eating habits of these families, in that they consume less of some foods, in particular, meat, fish, and some fruits and vegetables. These choices may prove deleterious to the health of family members, especially the children, for whom a complete and varied diet is particularly important. For example, red meat is known to be the main food able to provide the appropriate amount of iron for small children. This is particularly significant when one considers that in many European countries (Spain and Ireland in particular, but also France) iron consumption during the age of growth (6-36 months in particular) is below the levels recommended by the guidelines (10). The reduction in consumption of fruit and vegetables is similarly problematic, because proper quantities could provide the iron intake that is sacrificed by reducing

red meat consumption. In fact, recent evidence has shown that a balanced diet rich in fruits and vegetables can replace red meat with regard to the intake of iron in the age of growth (11). In addition, reduced consumption of fresh fruits and vegetables means a lower intake of fiber, minerals, and vitamins.

Regarding the locations where people buy food, those interviewed preferred to buy the most expensive goods (meat and fish) at hard discounters rather than in supermarkets or local markets. Also, they found it more convenient to buy their fruits and vegetables at these locations as well, rather than to make a separate trip to the local greengrocers or farmers market, which may mean that they consume lower quality fruit and vegetables.

A useful comparison can be made with the 2014 Moli-sani study, which assessed adherence to the Mediterranean diet as a favorable prognostic index during the economic crisis (12). The Mediterranean diet, also, provides a successful strategy for MetS (Metabolic Syndrome) management and helps reduce the risk of developing cardiovascular and cerebrovascular disease (13).

Analyzing the results of questionnaires administered to over 20,000 people in southern Italy, the Moli-sani study found that in the years 2007 to 2010 there was a progressive reduction in the adherence to the 'healthy' Mediterranean diet as a result of the worsened economic conditions. Though our survey had a smaller sample size, the results obtained agree with the results of the Moli-sani study. Our small sample size should be recognized as a limitation, but the aim of our study was to analyze the effects of a global event on a limited territorial reality, and hopefully in this way to better quantify the impact of the economic downturn on the real life of individual Italian families (12).

The economic crisis seems to have changed the eating habits and food-related

lifestyle choices of the subjects in the Marche Region cities sampled, especially in the urban area affected by the deeper economic depression. All categories of foods were affected by the worsened economic conditions, particularly fresh vegetables, fresh fish, and out of season fruit. Other food items were also affected, such as desserts, ice cream, alcoholic beverages, but this limited aspect cannot be judged as totally negative!

The economic crisis has deeply reduced the resources of average Italian citizens who, by markedly changing their eating habits, may also suffer negative consequences for their health.

It should be considered that the malaise generated by the environment, family, society problems, can sometimes be responsible also for the onset of eating disorders. It is during adolescence that attention needs to be paid to food education and the family and the school play a fundamental role in providing adequate knowledge about behaviors and lifestyles (14).

These changes are likely to have permanent social consequences, and deserve to be analyzed also in areas of limited size, in order to better understand the dynamics of individual choices and the social framework.

Riassunto

Effetti della crisi economica sulle scelte alimentari e sugli stili di vita legati al cibo nella Regione Marche

Contesto. La crisi economica in Italia ha portato a profondi cambiamenti nella gestione delle risorse non solo a livello macro ma anche per le singole famiglie, provocando sostanziali cambiamenti nelle diverse abitudini degli italiani.

Disegno dello studio. Lo scopo della presente ricerca è stato di condurre uno studio sui possibili cambiamenti nelle abitudini alimentari della famiglia, innescati dalla crisi economica. L'indagine è stata condotta in un'area della Regione Marche nel centro Italia.

Metodi. La ricerca è stata condotta nel periodo 2016-

2017 mediante la somministrazione di un questionario anonimo.

Risultati. Le persone intervistate hanno ridotto il consumo di alcuni alimenti. In particolare, analizzando i risultati per il gruppo delle proteine animali, si è registrata una riduzione nell'acquisto di carne bovina e un aumento in quello della carne di maiale. Il consumo globale di pesce è diminuito del 44%, con una riduzione nell'acquisto di pesce fresco e un aumento di quello in scatola. I consumatori hanno anche ridotto i loro acquisti di legumi freschi e in scatola, di verdure fresche e frutta fresca.

Conclusioni. La crisi economica sembra aver cambiato le abitudini alimentari e lo stile di vita legato al cibo dei soggetti oggetto dello studio, soprattutto nell'area urbana colpita dalla più profonda depressione economica. Si può ipotizzare che tali cambiamenti abbiano conseguenze sociali permanenti e meritino di essere analizzati anche in territori più piccoli, al fine di comprendere meglio le dinamiche delle scelte individuali e del quadro sociale.

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