Social Obesity and its Determinants 2nd Part as a Discussion from the Social Determinants of the Development: Rent, Education and Mortality

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Abstract

As a matter of discussion, obesity and its social determinants are proposed, such as: income levels, education or mortality, in terms of opinion and based on a practically social definition of the concept of obesity. Be part of a work that aims to correlate diabetes mellitus type 2 and the human development index (HDI), not explaining this, but a small part of its variance, 8.6% and questioning the authors the relevance of the type of design, as well as the very concept of HDI, and the consistency of the registries or the idiosyncrasy of the countries in the results. It is therefore a complex concept, that of the HDI, which goes beyond the indicators that make up the index, such as income, mortality or education and which is clearly linked to social classes, as shown by different studies. The so-called ecological fallacy is also discussed, which in this study of the IHD would be located in the countries themselves. Different works that corroborate this reality are shown, such as the recent study of child nutrition in the city of Madrid and its link to the most disadvantaged social classes in the group with obesity. Another example is explained through territoriality, and the development of an association between the 21 districts of the City with these indicators of income, life expectancy, educational levels, with health, such as obesity, overweight or diabetes, presenting a clear link. The work of territoriality clearly associates these problems with a vulnerability indicator.

Keywords: Obesity; Social Determinants; Vulnerability

Introduction

The problems of food and therefore of nutrition are from a social point of view, a complex world. Overweight, and obesity as visible faces, represent one of the scourges in the western worlds and one of its consequences, diabetes mellitus type 2 (DM 2), does not grow in these western universes and countries that are "incorporated" into the world of development. Spain has had "in crescendo" data from 1987, collected through National Health Surveys; Although the data passed has a stabilization, in men; moving from 45.14% in 2011 to 43.60% in 2014 in terms of overweight figures. We could well split according to this brief introduction, of a definition of obesity as a fundamentally social disease, as these determinants considered in 70% in different studies, have to do with the purely social, in contrast, only 30% that is remembered as biological [1-2].

There are multiple works that visualize this social determination of the diet, in the overweight-obesity-DM 2; with approaches of economic resources analysis, such as income, social classes, educational levels, and which have been put into play in various studies demonstrating their association. The recent reading of a publication of the Panamerican Journal of Public Health in 2017, around the Human Development Index (HDI) and the association with DM 2 in the world; among its objectives to demonstrate this relationship developmental-obesity-diabetes; In order to find a positive and linear relationship; it gives rise to multiple ratings. As already we know from different health records, to more HDI, more overweight-obesity and diabetes, in all developed countries, being a real scourge today. However, this study does not reflect only 8.6% of the variance in the different countries of the world; between the human development indicator, IHD and DM 2. The authors conclude among other issues, the complexity of the problem, the dependent relationship of each country, region and year (historical context), the so-called ecological fallacy or the quality of the records and in the design of the study [3- 5].

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In short, with the linear model used the components explain between 5% and 50% of the variance of DM 2 in the world; being reflected through its components; educational levels, life expectancy or income levels. A more development no more DM 2, I would like to say, with only an 8.6% p < 0.0001, that explains this behavior. This leads to the discussion of the authors ' various aspects, as we said, in relation to the consistency of the data in the different registers, also the social evolution of each one of the nations or the historical context in which they are found, which determines the lifestyles of its habitants.

It is this concept of complex human development, going beyond income, education or mortality. The western countries have obesity, overweight, DM 2 with more prevalence and are clearly linked at the present time to situations of precariousness, poverty, vulnerability, less income and lower educational levels. More obesity plus overweight and more DM 2 are grouped into the most vulnerable classes. They are the highest social classes, with more studies, with higher levels of income, the less problems of this type present.

All these indicators disaggregated have demonstrated their association with the highest prevalence of obesity and therefore DM 2 in the "developed world." The relationship between HDI, obesity-DM 2 cannot be homogeneous, measured through this parameter, because there are among other issues, historical, social and evolutionary determinants of the populations that explain another part of the problem, making this association unequal. A simple example, it comes to remember, as in the years 70 in the EE. UU, we associate the consumption of fast food, as a factor of well-being and the obesity was a sign of development and of health linking to these good practices. Today is the case, making them the highest social classes, with better levels of information and training, which optimize this correct food and nutrition and rectification of factors that point to overweight or obesity [6-7].

Another explanation for this non-linear behavior between the HDI and the prevalence of DM 2, in different countries of the world, with this methodology used, is the so-called ecological effect, or ecological fallacy. In developed countries DM 2 is a true epidemic for the whole population, but this is not uniform in all sectors, not reflecting what happens at the individual level. The ecological effect does not identify the groups of individuals with specific characteristics to which it is specifically associated. Rose (1992), prestigious epidemiologist, referred to this phenomenon with a well-known postulate "collective effect vs. individual effect", to refer to, as the collective can not always be applied to the individual. In this case, the different countries would have acted as individuals, full of social and evolutionary nuances, in their eating patterns, which confuse the results and which explains the low concordance between IHD and presence of DM 2; they are the most precarious sectors of the population, with greater factors of social vulnerability, through education, income levels, the most precarious social classes, in short, those that present more obesity-DM 2, in the western countries linked to more levels of development.

Recent works of our environment, make it clear, as for example for this City, the study on child nutrition, which was held in the city of Madrid 2017 and clearly linked to the most disadvantaged social classes with higher rates of childhood obesity , from 21.6% to 34.8%, among the more or less favored districts, in a significant way. Also of the association between the different districts of the city of Madrid and its greater presence of obesity, overweight, DM 2 according to the highest vulnerability indexes, which we will discuss at the end in more detail by way of example, about another recent elaboration [8].

This pattern to which we refer and which we show at the end, reveals the evidence through its 21 districts of the city, of how the social evolutionary diversities, key in the manifestation of these food problems, are homogenized. It is an example of historical reality in a defined social moment, in an urban environment that grants one of the uniformities, manifesting a close correlation between economy, educational levels, health, vulnerability or life expectancy. It is a means, therefore, urban, homogeneous, in terms of social evolution and habits of life, with a configuration of urban territoriality as the basis of the analysis that uses the geographical realities of the city of Madrid, reflected in its districts, with the optics of social inequality, and not of social evolutionary differences, as occurs when different countries of the world are taken, so diverse in all aspects of evolution and development; It is, then, one of the key aspects to contextualize the relation.

The approach of this territoriality as a way of addressing inequalities, vulnerability and the study of problems, is in the image of the different districts, in the self-perception of health, in the life expectancy at birth, in the levels of income and in the distribution of obesity and DM 2. We have used Madrid and its districts as a model of inequality units, of distinct territorialities, clearly marked, with the development of an indicator, of vulnerability (ranking) that allows us to define very different areas. Serving as a way to partially dilute that ecological fallacy, through the analysis of territorial units, clearly differentiated by factors of vulnerability, such as income, educational level or life expectancy; Factors all of them introduced in the HDI; with the opportunity to look in turn from proximity, and therefore be able to associate it with all the factors of vulnerability, which with the index itself has a high association.

An example in line with the ecological and socio-evolutionary contexts, we gather it in the results provided in the 2014 National Health Survey that highlights this link between social class, educational level, from a study approach from inequality. The results of the indicators with levels of studies, economy, life expectancy are seen in our country in a certain way, since it affects the most disadvantaged classes and the lowest educational levels [9, 10].

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Therefore, obesity is linked to different social realities, in some cases of welfare-related fashions, as occurred in the United States in the years 70, or in China today; in others to urban poverty, with the non-availability of foods that allow a balanced diet, as a paradigm of the historical moment in which it occurs. The current prevalence in European and North American countries is a sign of the economic crisis and the distribution of this form of malnutrition associated with more disadvantaged and poorer classes. The economic needs, have marked a clear change in this direction in the developed countries, being the deficiencies not a factor of undernourishment of low weight, but of obesity and overweight, consuming food that favors it, by the lack of fresh products, like fruits, vegetables or fish, in food contributions.

Finally, review in this section another point of analysis in this field of development, which is what has to do with mortality. Spain is a country with a good life expectancy globally, occupying the first places along with Japan. According to data from 2017, in all OECD countries life expectancy at birth has increased in more than 10 years since 1970 to reach an average of 80.6 years. The life expectancy at the highest birth corresponds to Japan with 83.9 years, as well as with Spain and Switzerland with 83 years each, the lower one corresponds to Latvia 74.6 and Mexico 75.1. With this paradigm, this factor incorporated in the HDI, would clearly reduce mortality. Japan, a country with very low prevalence of obesity fits the model, but Spain? One of the countries where obesity is currently very high, this question can be asked [11, 12]

As an example, we presented/displayed this work that us contextualize as these social factors pierce in the prevalence of obesity, overweight or DM 2 in our City

Title: The overweight, the obesity and the DM 2 in Madrid and its districts, like vision of social.

Introduction

The relationship between overweight, obesity or DM 2 and social factors is a great evidence, in addition to being one, of large epidemics in "developed" countries and a public health problem; The decrease in life expectancy at birth, which affects the most disadvantaged classes to a greater extent, is a clear factor of inequality and social vulnerability, in the origin and consequences.

Objective

To determine for the city of Madrid, the level of association between health variables: self-perception of the health state, overweight, obesity, diabetes mellitus (DM 2), with social variables of social inequality like: levels of rent, level of studies, social class, presence of population immigrant and indicator of vulnerability (ranking) in Madrid.

Methodology

Different sources are used; 1- Municipal Register: Life Expectancy (EMVN), Average Rent of Home 2014 (RNM); 2-Survey of Living Conditions city of Madrid 2016 (ECV 2016): self-perception of good / very good health; self-reported social class (High, Medium High, Medium, Medium Low, Low) and educational level; 3-Health Survey of the city of Madrid 2017 (ESCM 17): obesity, overweight, diabetes referred. The data used corresponds to each of the 21 districts in which the city of Madrid is divided.

Vulnerability indicator (ranking): composed of indicators of: RNM 2014, EMVN, level of education, immigrant population, elderly population, dependent population, among others. The values are weighted with a system of hierarchical analysis (AHP), using the average value to categorize the 21 districts and 132 neighborhoods of the City, based on these vulnerability factors.

The indicators of obesity and overweight come from the ESCM 17, the BMI was calculated from body weight and self-reported height, individuals with a BMI ≥30 kg / m2 were classified as obese, between 25-30 is classified as overweight.

The social class comes from the ECV 2016, with what people refer according to the options that are shown and assigned.

Linear Spearman correlations are established between the different variables, marking the significance $p < 0.05$. Percentages and means are elaborated for the descriptive ones. Excell and SPSS programs are used for the analysis.

Results

The difference between districts is as much in 2005 as in 2017, in prevalence of DM 2, graph 1; where the most vulnerable districts are above 6% and the least below 6%, with a downline, ordering the districts by vulnerability ranking 2017 (Puente de Vallecas-Retiro are at the extremes); Usera presents 8.6% and Retiro 4.2% of DM 2 referred.
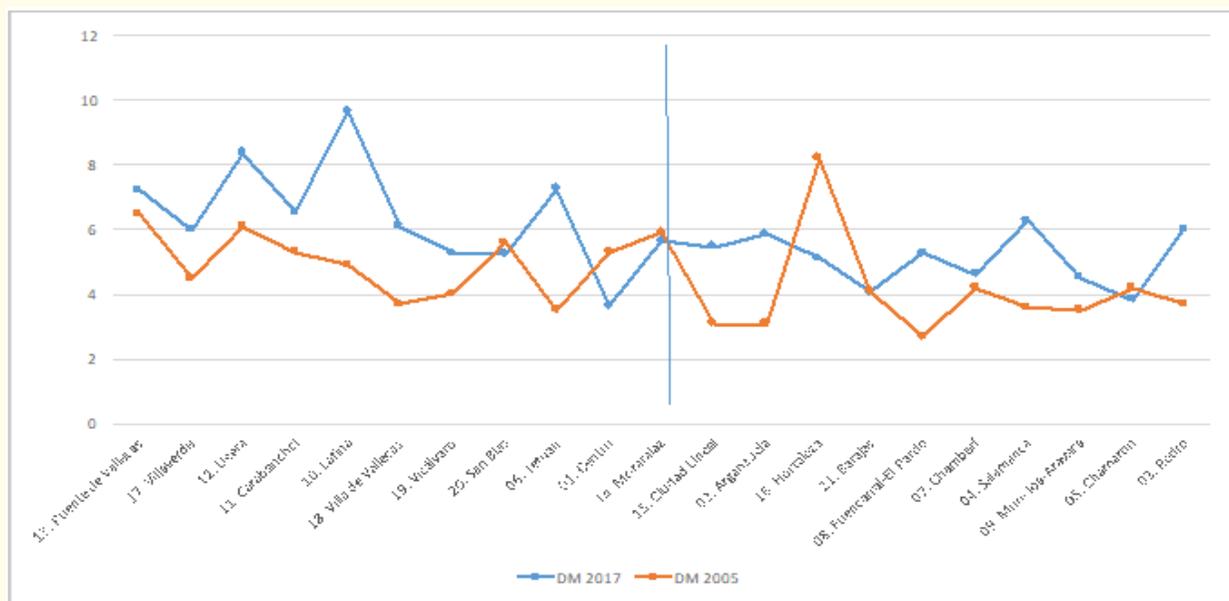
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Figure 1: DM2 2005 -2017 prevalence referred in districts of the city of madrid by order of vulnerability.

The found levels of correlation between the different variables were:

1. **Overweight:** With rent -0.525 (p < 0.05); level of high studies -0.708 (p < 0.001); social class low average/0.604 (p < 0.001); p. immigrant 0.96 (p>0.05); indicator of vulnerability 0.490 (p < 0.05); very good state of good health/-0.766 (p < 0.001); EMVN -0.230 (p > 0.05); diabetes mellitus 0.480 (p < 0.05).
2. **Obesity:** With rent -0.707 (p < 0.001); level of high studies -0.850 (p < 0.001); social class low average/0.704 (p < 0.001); p. immigrant 0.54 (p < 0.05); indicator of vulnerability 0.807 (p < 0.05); very good state of good health/-0.684 (p < 0.001); EMVN -0.343 (p > 0.05); diabetes mellitus 0.667 (p < 0.001).
3. **DM 2:** With rent -0.498 (p < 0.05); level of high studies -0.577 (p < 0.05); social class low average/0.525 (p < 0.05); p. immigrant 0.49 (p < 0.05); indicator of vulnerability 0.583 (p < 0.01); very good state of good health/-0.415 (p > 0.05); EMVN -0.055 (p > 0,05).

Discussion

The ecological studies do not allow to superimpose the collective to the individual, however, in territorial zones, districts of the same City and Country the association between territory and the profile of the individual can be closer, unlike what happens with more global environments who plan to associate IDH and DM 2, including the diversity of countries in the world as a unit of analysis.

The correlations have been significant in all the sociodemographic variables proposed except with the EMVN. One comment, in this respect, is in relation to the previous data elaborations, from 2005, with a higher level of association between EMVN-Diabetes than in 2017 (-0.414 2005 and 0.05 in 2017). This parameter has important variability, as we verified, also reviewing other sources, and thus in the case of the National Health Survey (ENS), from 2011 to 2014, it goes from 0.06 to 0.7 its level of correlation. The registered figures of diabetes present in this case very different values of registration in the CCAA, from one year to another; what reminds us of the consistency of the records. We must therefore focus on making more elaborate methodologies that allow us to associate this indicator, and analyze other assumptions such as the impact in real time of the DM 2 on mortality.

Conclusion

There is a clear association between overweight, obesity, DM 2 and the social factors that mark inequality and vulnerability such as: education, income levels, social class or vulnerability level of belonging. The links to health are evident, as well as the limitation in life expectancy at birth that shows a significant association for both overweight and obesity and diabetes; in these 21 districts of the City as expressed by the vulnerability ranking.

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Recommendations

The development of policies, as tools to address 70% of social obesity, refers, for example, to Japan, which with its broad normative development has particularly low rates of 3.5%. And measures that allow the redistribution of wealth, access to education, training, access to sports or the provision of quality food in schools, families, dinning rooms or groups that need it most. Move forward in industrial or decretal legislations in different areas of society, as lines of work from the social environment.

As a final comment, to say that the social component of these feeding problems is widely established, and has a great weight, therefore, should be measures that start from this environment, which particularly permeable the approach and the solution of these high rates of overweight and obesity and diabetes mellitus suffered by western countries at this time.

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Volume 13 Issue 12 December 2018