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RESEARCH ARTICLE

ENVIRONMENTAL FACTORS AND DEPRESSION IN WITH OBESITY

[1]Karinne Silva Meira, [2]Beatriz Rocha Sousa, [2]Larissa Alves Guimarães, [1,2]Ramon Alves Pires, [1]Vinícius Narciso Santos, [1]Ísis Silveira Dias, [1,2]Felipe Oliveira Bittencourt, [2]Iaggo Raphael David and [1,2,3,4,*]Stenio Fernando Pimentel Duarte

[1]Independent Faculty of the Northeast – Bahia, Brazil
[2]Public Health Foundation of Vitória da Conquista – Bahia, Brazil
[3]Faculty of Technologies and Sciences – Bahia, Brazil
[4]Faculty of Santo Agostinho – Bahia, Brasil

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**Corresponding author:*
Stenio Fernando Pimentel Duarte

ABSTRACT

Environmental factors have been identified as determinants of health-disease process of individuals and include: demographic conditions, leisure economics, use of cigarettes and alcoholic beverages, sedentary lifestyle and even changes in eating habits. The present study aims to evaluate the correlation between imc alterations and depression and the association with environmental factors. This is a cross-sectional and quantitative epidemiological study. Sample was composed of 488 adult individuals of both genders. Being 131 men and 357 women. Sample consisted of 488 individuals of both genders, in whom the socioeconomic profile, the presence of mental disorders (anxiety, stress and depression), body satisfaction and quality of life were verified in individuals with normal weight eutrophism and obese. Most of the sample consisted of women, in social class C and D, for the most part. Schooling was incomplete higher education like most people, followed by full high school and college. In our results, it was possible to perceive the interaction between weight gain and mental illness. The sociodemographic variables create an alert about the influence of social determinants on the emergence of mental disorders, poor quality of life, overweight and also obesity. It serves as an alert for the construction of policies and actions for the prevention of obesity, as well as mental disorders, actions that pass through the social determinants, so that the health indicators are improved, in an epidemiological scope.

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INTRODUCTION

Environmental factors have been identified as determinants of the health-disease process of individuals and include demographic conditions, socioeconomic aspects, use of cigarettes and alcoholic beverages, sedentary lifestyle and even changes in eating habits (1). It is evident that these elements can provoke mutations in DNA, which modify the performance of their genes and define epigenetics (2). Admitted to this, the effects of the progress of science and technology on people's living conditions have been discussed as a consequence of a considerable increase in life expectancy, exposing them to being more likely to develop Non communicable Chronic Diseases) (3). Whether in developed or emerging countries, studies show that the diseases described occupy the leading positions in mortality rates worldwide and show that, by 2020, death from NCDs will account for 73% of deaths (4). Cardiovascular diseases, obesity, cancer, hypertension, depression and diabetes mellitus are among the NCDs most concerned with morbimortality numbers, in this way the World Health Organization has sought to warn the population about the damages caused by these and what items can aggravate their so that they can be avoided (5). The loss or reduction of the taste for life, added to the craving and prostration, may be due to imbalances in the cerebral biochemistry, in which there is a reduction in serotonin levels (6). These signs characterize depression, which accounts for around 350 million people and is commonly found in individuals with other chronic diseases, since their origin is due to similar organic mechanisms (7). Obesity is considered as a higher concentration of fat in the body, often caused by the excessive consumption of calories in the meal, associated with less loss of these. In addition, it can be caused by dysfunctions in the endocrine glands and epigenetic factors (8). It should be noted that this has been related to a decrease in the likelihood of life of 5 to 10 years due to the numerous comorbidities related to it such as gastroesophageal reflux, pancreatitis, stroke, venous edema, depression and anxiety (9). Considering the numerous negative impacts of obesity and the influence of factors external to the advent of diseases, the present study has the objective of evaluating the correlation between imc changes with depression and the association with environmental factors.

MATERIALS AND METHODS

This is a cross-sectional and quantitative epidemiological study. The research was carried out in the municipality of Vitória da Conquista - BAHIA, Brazil (-14 ° 51 '58', longitude of -40 ° 50 '22), which currently has a population of 320,129 inhabitants, its altitude is 923 meters on the steps of the main church. Sample was composed of 488 adult individuals of both genders. Being 131 men and 357 women. All individuals were alerted about the present study and agreed to sign the Informed Consent Term (TCLE). Body mass index (BMI) was used to verify the body composition of the individuals in the sample, in which they were classified into eutrophic and obese individuals.

Questionnaires used:

a) Socioeconomic questionnaire (gender, income, age group (in years), schooling, marital status);
b) ABUEL's pre-existing disease questionnaire: diagnosis of depression;
c) Depression - BECK depression inventory;
d) WHOQOL-BREF - to check the quality of life.

Characterization of the questionnaires

The WHOQOL-BREF is an important instrument, tested and validated, developed to evaluate the quality of life (QoL) of the individuals in scoring scales, offering information and results of the provision of social and health services (10, 11). Therefore, to evaluate the effectiveness of an intervention to improve a person's quality of life, it is important to use a validated tool that will comprehensively measure the various aspects of life (10). The QoL is based on how the human being perceives his / her "position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns." The LIPP stress questionnaire was also used, which is a questionnaire that contains several questions, in order to identify if the patient has any symptoms of stress. The Lipp Adult Stress Symptom Inventory (ISSL) intends to identify symptoms of stress in an objective way, the symptomatology presented by the patient, evaluating the types of symptoms (somatic or psychological) and the phase that is present. Selye's four-phase model of stress (alertness, resistance, near exhaustion and exhaustion) based initially on Selye's three-phase model (alert, resistance and exhaustion), but does not invalidate it, is only an improvement of the first proposed model. The Beck Depression Inventory (BDI) is the acronym for the Depression Inventory instrument, a measure of the intensity of depression, one of the first dimensional features. It was originally created by Beck et al. (1961) and reviewed by Beck et al. (1979/1982). It was initially developed as a symptomatic scale of depression for use with psychiatric patients, and many studies on its psychometric properties were performed in the years following its appearance. This, later, has been widely used, both in the clinical area and in the research area, proving to be a useful tool for the general population as well. This questionnaire consists of 21 groups of statements. Having intuited to describe how the patient has felt in the last week (12). A descriptive analysis of the data represented by percentages was performed, and a correlation analysis was performed between the studied variables. In order to verify the epidemiological profile of hypertensive residents of victory of the conquest. The data were treated in EXCEL and later analyzed in SPSS® 25.0 statistical software. Pearson's chi-square test and a bivariate correlation test were performed between BMI and depression, in order to understand the correlation of the grouping of variables. The level of significance ≤ 0.05 was used, usually in health research models.

RESULTS AND DISCUSSION

The Sample consisted of 488 individuals of both genders, in whom the socioeconomic profile, the presence of mental disorders (anxiety, stress and depression), body satisfaction and quality of life were verified in individuals with normal weight (eutrophism) and obese. Most of the sample consisted of women, in social class C and D, for the most part. Schooling was incomplete higher education like most people, followed by full high school and college. It was found association significance, ≤ 0.00, between gender and body mass index, which can be explained by the exacerbated care by the female gender in relation to men (13). Another reason that may explain is hormonal factors that differ exponentially between men and women (14) modulating the functions of the organism and also in the intestinal microbiota that can adapt to food factors (15,16). Because the risks of developing chronic diseases are, therefore, different between genders (17). The schooling of the sample was good, since few people claimed to have low educational level, it was also verified that there was no significant association between the high body mass index (obesity), with op ≤ 0.284. Proving that the higher the level of schooling the lower the risk of developing obesity (13, 18). Stating, therefore, that education is an important risk factor for the emergence of chronic diseases and their comorbidities (19). As in the case of obesity (20). In relation to work and social class, the majority claimed to work and belonged to social class C and D, no association was found between variables and change in BMI, $p \leq 0.222$ and ≤ 0.760, respectively. Demonstrating that working and having reasonable financial conditions is an important factor in preventing obesity.

The opportunity to choose healthier foods, leisure and quality of life is closely related to preventing the onset of chronic diseases. Respondents stated that they had good quality and life, being the majority, and found a significant association between good quality of life and maintaining healthy weight, with a value of $p \leq 0.05$. Studies have shown that lowering body weight improves quality of life, as well as physical and psychological health (21). Surveys performed with people who undergo bariatric surgery have reported a significant improvement in quality of life (22). For the impact of obesity is not only restricted to the scope of health in general, but causes damage to daily life activities, both in social and work performance (23-26). The greater the degree of obesity, the greater the severity of the disease and also its limiting role (27,28). The corporal satisfaction was positively associated with the nutritional profile of the individual, in which we obtained the value of $p \leq 0.000$. Some research indicates that there is a truism between body satisfaction and normal weight, however, we present the statistical proof of this association, leaving it not just a speculation but a result based on statistical truth. Being is an important variable for the individual to feel comfortable with their body and their social exposure (29,30). Regarding the correlation between depression and the nutritional profile of the individuals, no statistical significance was found with the value of $p \leq 0.082$. It is believed that because it is a sample of people with normal weight, it was possible to verify that changes in weight can lead to the onset of

depression (31). Being, therefore, obesity is a risk factor for the emergence of mental illness, both in its psychological and social mechanisms, as well as in inflammatory levels (32, 33).

Table 1. Characterization table and Pearson's chi-square test

		Eutrophic	Obesity	
		n	n	*p-value*
Gender	Male	99	32	0,00 *
	Female	327	30	
Social Class	B	18	4	0,760
	C	111	14	
	D	190	30	
	E	71	9	
Schooling	Fund. Incomplete	45	14	0.284
	Fund. Full	15	1	
	Incomplete Med.	30	4	
	Med. Completo	104	16	
	Sup. Incompleto	112	13	
	Sup. Complete	102	12	
	No Schooling	10	1	
Status	Marital Single	201	26	0.788
	Married	195	32	
	Divorced	25	3	
Type of Education	Public	315	48	0,433
	Private	96	13	
Work	Yes	299	40	0.222
	No	127	22	
Stress	Yes	234	33	0.401
	No	130	16	
Anxiety	Yes	103	10	0.177
	No	260	38	
Quality of Life	Good	241	30	*0.05
	Regular	91	10	
	Bad	66	17	
Satisfaction Body	Content	199	11	0.00*
	not Satisfied	191	44	

Table 2. Bivariate correlation between BMI and Depression

		BMI		
		Eutrophic	Obese	*p-value*
Depression	Yes	69	10	0.082
	No	299	44	

Source: Own research, 2018.

Conclusion

In our results, it was possible to perceive the interaction between weight gain and mental illness. The sociodemographic variables create an alert about the influence of social determinants on the emergence of mental disorders, poor quality of life, overweight and also obesity. It serves as an alert for the construction of policies and actions for the prevention of obesity, as well as mental disorders, actions that pass through the social determinants, so that the health indicators are improved, in an epidemiological scope.

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