

# Obesity and brain alteration?

## Opinion

Obesity is becoming one of the most common non-communicable diseases in the world, according to the World Health Organization, 2.8 million people die each year due to this cause<sup>1</sup> and it behaves like an empowering circle where every year that goes by increases more cases reported, coming to affect more the child population. Then questions arise as to whether the actions to avoid it are correct or not applied properly.

Among some causes of childhood obesity is the global dietary change and the trend of decreased physical activity.<sup>2</sup> But for children to follow that pattern of change, parental involvement and approval is needed, and their participation encompasses everything from the decisions they make for their children, to the way they impose customs and habits and even the genetic load. There are several studies that support the existence of a strong association between obese parents and the risk that children follow this pattern of behavior, the Ibero-American agency for the diffusion of science and technology published that there is a 50% risk for the child to be obese if one of the parents is obese and 80% if both are.<sup>3</sup>

So from where this behavior is born and what is influencing that it to be perpetuated, in fact, there must be many factors, from the increase in working hours, the change in the type of families faced with the new role of living in today's society, the economy, the industrial system, the emotional state, level of self-esteem, life projections, social status, among others. Of all the different causes that came to establish obesity as one of the greatest pathologies of the 21st century, it is interesting to see the advances that are made with the change of brain activity.

There are studies that analyze the relationship of obesity with cognitive deterioration and dementia, in image exams there is evidence of a decrease in gray matter, atrophy of different lobes, greater deposition of amyloid  $\beta$  in the hippocampal region.<sup>4</sup> An element related to this case is the composition of the food, and within the different chemical compounds that the conformation has existed an element that has attracted attention and caused controversy in the world, sugar. There are investigations such as the one by James DiNicolantonio, James O'Keefe and William Wilson, published in the British Journal of Sports Medicine, which affirm that sugar causes dependence, comparing its effects on a physical and mental level with cocaine or other drugs, while other investigations deny this relationship.

And even if you do not have a very precise relationship, you may wonder if this situation leads to changes in behavior patterns due to the change in the brain, that leads to assume habits that, although they

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are mentioned that are not healthy, continues to promote them and transmit them to their children perpetuating the problem.

According to the law of survival, since the prehistoric era, man avoids situations that come to harm him or put his life or his species at risk, but what happens now, there is a change in behavior that seems to make the human rather than knowing that certain foods and activities harm him, continues to do so, as a program of self-destruction towards himself and towards others.

The current society faces a progressive self-destruction, we assume the concept of obsolescence programmed in us with the wrong way of thinking or adopting certain customs that come to accelerate our destruction producing a poor quality of life.

Therefore, we must consider the impact of changes in our body due to obesity, how it influences our way of acting and thinking and how to stop it.

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## Conflict of interest

The author declares no conflict of interest.

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