Causes and Pathophysiology of Obesity

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Introduction

One of the most persistent public health disorders in the United States and other Western countries for the last few decades is obesity (Ball & Crawford, 2005). It is prevailing worldwide and s associated with the concerned medical comorbidities (Ball, & Crawford, 2005). Notably, they include the metabolic syndromes of diabetes mellitus, hypertension, dyslipidemia, and atherosclerosis, which are mainly due to the excessive secretions of adipokines (Ball & Crawford, 2005). It is one of the leading contributors to metabolic dysfunction that, on a larger scale, involves glucose and lipids (Ball & Crawford, 2005). Dysfunctions of the organs include the liver, cardiac, endocrine, pulmonary, intestine, and reproductive functions (Ball & Crawford, 2005). Therefore, innovative research has explained the causes of obesity and challenged the mission of the complexity of the disorder (Ball, & Crawford, 2005). According to a lot of individuals, the cause of obesity lies somewhere in multiple genetic and environmental factors (Ball & Crawford, 2005). These factors interact and correlate with each other and influence body weight (Ball & Crawford, 2005). The topic of genetic and environmental influences on obesity provides a conceptual framework. Research for each related domain appears to have undergone advancement during the past decade (Ball & Crawford, 2005).

So, there are two predominant aims of this paper. The first is to review the evidence for genetic and social factors that influence obesity, along with the methodologies related to establishing this association (Ball & Crawford, 2005). The second one is to consider the opportunities for greater synergy within this domain (Ball & Crawford, 2005). The paper aims to foster the ideas of research that could bridge the environmental and genetic factors to obesity and the behavior that promotes obesity (Ball & Crawford, 2005). The potential of postulates for the conceptual framework, their interaction, and covariation are proposed (Ball & Crawford, 2005).

Social, Environmental And Genetic Factors Contributing To Obesity And Related Behavior

This section defines the broad definition of social environment and its impact on obesity. Specifically, the social environment is encompassed by the immediate physical surroundings, cultural milieus, and social relationships that define the group of people and the purpose of their interaction (Faith & Kral, 2017). Components of the social environment comprise “race relations, religious institutions and practices, social and economic processes wealth, social inequality, social, human, and health services power relations, government, cultural training, the arts and beliefs of place and community” (Faith, & Kral, 2017). The experience of the social environment could be made at multiple scales that include

the “households, kin networks, neighborhoods, towns and cities, and regions.” In addition to the social influences, this part of the study has defined the genetic impacts on weight gain and its relation to environmental factors (Faith & Kral, 2017).

2.1- Macro Environmental Influences

“Two macro-environmental factors influence obesity. The first one is the exposure to the toxic environment, while the second one is the Socio-Economic Status. Both of these particular factors are of great importance because a reasonable amount of databases has provided information on these two variables because of their potential relevance for obesity prevention (Faith & Kral, 2017).”

Toxic Environment Exposure

“Exposure to the toxic environment is related to genotype. That is, individuals with obesity-predisposing genes may be particularly responsive to the effects of such a toxic environment (Faith & Kral, 2017). In addition, certain individuals may be more likely to seek out or expose themselves to aspects of the toxic environment.”

Socioeconomic Status (SES)

“SES is associated with an increased risk of weight gain in American individuals. Specifically, an inverse association is found in the research between occupational status and weight gain for men and women (Faith & Kral, 2017). When SES was assessed using education as the indicator, the relationship became less strong (particularly among men).”

2.2- Microenvironmental Influences

“However, the two micro-environmental factors that affect obesity are the social facilitation of eating and parental feeding practices. These particular factors are also of great importance because there is also a reasonable database that provides the information on these variables regarding the feeding practices because these factors hold high potential relevance for the prevention of obesity (Faith, & Kral, 2017).”

2.3- Physical Activity

The living style of the modern environment has reduced the need for physical activity among individuals. The reduced physical activity results in a reduced expenditure of energy that has a negative association with the maintenance of weight gain or loss. Two of the activities related to this section include non-exercising and watching TV. Both of them are associated with the status of weight

and the activity of thermogenesis (Redinger, 2017).

2.4- Genes Associated with Eating Behaviors

Although the information about the genes that influence the pattern of diet for most individuals is quite short. But there exists a subset of a few people whose obesity results from the mutation in just a single gene and is marked as hyperphagic. Since these individuals are relatively rare in the population, some studies have associated or linked the design of specific genes or the regions of the genome within the larger allies. They are rare for sure but present the area for future research (Faith & Kral, 2017).

Conclusion

“The following article has highlighted the areas that have a common goal for the identification of factors that take part in the obesity and weight imbalance in the population. The main distinct areas are the social or environmental factors, which include the micro and macroeconomic factors related to eating habits and living styles (Redinger, 2017). And the second one is the genetic factors associated with obesity. However, both areas are of unique focus but have the potential to complement each other and stimulate further collaborations and investigations. The path leading to obesity is complex and variant for most individuals and the population. However, additional research about the impact of genetics on the choices of environmental factors made by any person moderates the expression of obesity that is promoted by genes. It gives advancement to the current state of knowledge and provides the root insights about the treatment and prevention of obesity (Redinger, 2017).”

References

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