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How Effective is the Approach Taken Currently in the Field of Public Health to Preventing Overweight and Obesity?

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Abstract

Obesity has spread like wildfire over the globe, posing a serious threat to public health. Co-morbidities, like type II diabetes, heart disease, different malignancies, and other health conditions that may contribute to greater morbidity and death, have emerged as a significant cause of overweight and obesity. As a result, there is also a large financial burden. As a result, developing population-based methods to prevent weight gain is critical from a public health perspective. Obesity is on the rise, but public health interventions have had minimal effectiveness in combating it. As well as examining current public health efforts to reduce risk factors and prevent obesity, this study examines the definitions of overweight and obesity as well as the differences that exist between age groups and ethnicities.

Keywords: Overweight concern, Public health, Obesity issue, Obesity treatment procedures.

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1. Introduction

Concern on a global scale has been brought about by the issue of obesity as it relates to public health (Sanyaolu et al., 2019). In 2015, WHO estimates that there will be around 2.3 billion individuals aged 15 years and older who are overweight, and over 700 million people who are obese throughout the globe (Association, 2018). Although some wealthy nations, such as UK and Germany, have seen a decrease in the prevalence rate of obesity over the last decade, the prevalence rate of obesity continues to climb in many other regions of the globe, particularly in the Asia Pacific region (Chung et al., 2018; Krzysztoszek et al., 2019). As an illustration, the consolidated prevalence of overweight and obesity enhanced by 38 per cent in Japan. In China, the percentage of adults who were overweight or obese reached 19.0 percent in 2002 (Sakaguchi et al., 2008).

Overweight and obesity constitute key causes of co-morbidities, such as type II diabetes, heart illnesses, different malignancies, and other health issues, which may lead to increased morbidity and death, according to an extensive body of research that has arisen in recent years (Abdelaal et al., 2017; Orio et al., 2016; Pulgaron & Delamater, 2014). The expenditures associated with receiving health care as a result are likewise considerable. It was estimated that the entire expenditures related with obesity in US amounted for about one per cent of the country's revenue (GDP). More than 2.4 trillion Euros were spent on healthcare linked to obesity in Europe, and the estimated proportional economic burdens varied from 0.09 percent to 0.61 percent of national GDP. In US, the cost of obesity-associated healthcare was much higher. In China, it was estimated that the total medical expenditures attributed to overweight and obesity amounted to around 2.74 billion US dollars in 2003, and these costs accounted for 3.7 percent of the country's overall total

medical costs. It has been estimated that the combined direct costs of overweight and obesity in Canada amount to 6.0 billion US dollars, which is equivalent to 4.1 percent of the overall health expenditure for 2006. In addition to this, when associated co-morbidities were included in, the direct cost rose by a total of 25% (López-Suárez, 2019; Misra et al., 2019).

This article intends to discuss four subject areas in light of the obesity epidemic, which is a global public health concern: (1) the meaning of the word of overweight and obesity; (2) the health implications of obesity; (3) the factors that promote the growth of obesity; and (4) this same effectiveness of existing public health strategies for health risk decrease and weight management (Rathbone et al., 2022).

Organization of this paper will be described as follows. Section 2 is dedicated to give a discussion on overweight vs. obese. Section 3 is dedicated to explain about the effects of being overweight on one's health. In Section 4, the conclusion has been drawn.

2. Overweight vs. obese

It is possible to describe obesity as a disorder characterized by an abnormal or excessive accumulation of fat in fatty tissue, to the point that one's health may be negatively affected. The Body Mass Indicator (BMI), which is computed as kg/square metre, is regarded to be a more useful measure of obesity at the population level. Furthermore, the BMI is a straightforward index that can categorize individuals as either underweight, overweight, or obese. The World Health Organization (WHO) has developed a classification system for overweight and obesity in adults classified according to different BMI cut-offs. The risk of co-morbidities that is connected with BMI was used to determine these cut-offs. The use of BMI, on the other hand, does not differentiate between weight that is connected with strength and weight that is associated with adipose, and the link between BMI and fat mass content changes depending on the build and proportion of the body. On the other hand, the measurement of based on inter or regional fat accumulation is superior to BMI for the purpose of reflecting regarding risk factors for coronary illnesses and other kinds of chronic diseases. Therefore, an evaluation of the accumulation of fat in the middle abdominal region is of tremendous assistance in identifying obesity (Donini et al., 2022; Semlitsch et al., 2019). The Body Mass Index (BMI), Waist-to-Hip Ratio (WHR), Waist-to-Height Ratio (WHtR), and Waist-to-Chest Measurement (WC) are some of the anthropometric indices that have been compared in a number of studies to determine which one is most accurate in analysing obesity and predicting the health risks associated with obesity. On the other hand, there is no consensus over which index need to be used consistently in order to define obesity (Streng et al., 2018; Zhang et al., 2021). It has been argued that a health risk categorization depending on WC is more beneficial for assessing one's state of health than even BMI or WHR, either on their own or in conjunction. The results from a sample group of 283 men and 298 women aged between twenty and sixty years suggested that a waist circumference (WC) more than 99 cm in males and larger than eighty-six cm in women is linked with a considerably extremely high risk of sedentary lifestyles metabolic problems. These findings were based on the fact that the men had a significantly higher WC than the women did. The relationship with waist circumference (WC) and overall prognosis is patients with significant for insulin sensitivity, coronary blood pressure and cholesterol levels, and so all and chosen cause-specific death rates; moreover, WC is an important to gain insight of cardiovascular events hazards than would have been BMI. The waist circumference (WC) is the best anthropometric parameter to use in screening Chinese individuals for metabolic syndrome, as it was better related with metabolic risk variables than the body mass

index (BMI), the waist to hip ratio (WHR), and the WHtR. However, the effect of gender, age, and racial or ethnic background on the appropriate cut off values of waist circumference (WC), as revealed by previous research, poses an issue with the use of WC for the evaluation of obesity (Morales Camacho et al., 2019).

The terms "overweight" and "obesity" might be difficult to define in children and young adults due to the fact that their height is always developing and their body composition is always shifting. There have been a variety of measurements and references taken into consideration, including body mass, BMI centile, and skinfold thickness. In recent years, the body mass index (BMI) has gained widespread acceptance as a reliable and accurate indirect measurement of atherosclerosis in children and young adults. It is presented a collection of smoothed gender- BMI cut-off values. These values were derived from different sets of nationally representative data. The body mass index (BMI) lower limit that was considered for overweight was twenty-four kg/m2, and the BMI cut-off value that was suggested overall obesity were thirty-one kg/m2 at age nineteen years. However, the baseline statistical models do not fully reflect non-Western communities, and very little is known regarding the relationship between BMIs that are over these cut-off thresholds and the health implications that are experienced by children in other countries. As a result, beginning in 2006, the WHO began publishing two new ranges of bringing awareness: one for new-borns and early children, and another for school-aged children and adolescents. The criteria for new born infants' children were established on the basis of healthy children who were nursed from all over the globe (Wang et al., 2020).

Both changes in body structure and height that occur naturally with age have an impact on how anthropometric data should be interpreted. Older people, on average, have much fatter because youths do at any disclosed BMI, and set of standards of WC clearly show quite fat deposits in elderly adults than in younger people. This is due to the fact that as people age, a relatively bigger amount of fat increases with time in the abdomen and a relatively smaller amount of fat solidifies in the extremities. Because of changes in body type proportion that occur with aging, the cut off values that are used to adults would need to be rethought when applied to elderly people. However, in generally, the BMI is a frequent measure that is used to identify obesity in older adults. Growing body of research shows a U-shaped association between increased and fatality in older persons, in contrast to the young or mid- population, and underweight is dangerous, but fairly benign overweight, obesity, and perhaps even abdominal obesity could be beneficial for elderly persons (Kang & Kong, 2021).

It is possible that using BMI to identify obesity would result in an overestimation of adiposity in older people since height naturally decreases with age. In addition, the BMI does not differentiate between a person's fat mass and their muscle mass. Because of this, the validity of using BMI as a measure of obesity is called into doubt; thus, different anthropometric indices are being suggested as a means of determining the degree to which older people are overweight. These indicators consist of the sagittal abdominal diameter, the WC, the WHR, and the WHtR. Nevertheless, the decision of assessment and the threshold values in the process of forecasting deaths or other heart risks in the older population is still fraught with uncertainty (Vasquez et al., 2019).

3. The Effects of Being Overweight on One's Health

Several methodological limitations have been carried out to demonstrate the connection between being overweight or obese overall and having extra fat in the abdomen region as a risk factor for a broad variety of diseases. The estimated odds ratio of chronic health issues related with obesity.

3.1 Insulin-dependent diabetes

The highest correlation between obesity and type II diabetes exists between the two conditions than any other physical health issue. The relative risk of occurrence of several co-morbidities associated with obesity and overweight was investigated by a meta-analysis using data from 89 separate studies. Both men and women who had a high body mass index and waist circumference had a considerably increased risk of developing type II diabetes. When compared to the prevalence of other co-morbidities, obesity, as measured by BMI, was shown to have the highest connection with occurrences of type II diabetes. The pooling hazard ratio across classes of BMI were more than six in males and twelve in women. The confidence interval for the aggregated relative risks was 95 percent. According to the results of the Nurses' Health Study, which tracked 78,419 women who appeared to be in good health over the course of 20 years, the principal component analysis relative risk of developing diabetes increased (Stamatouli et al., 2018).

3.2 CVD

A person who is obese has an increased risk of developing a variety of cardiovascular conditions, such as high blood pressure, dyslipidaemia, and cardiovascular disease. The Multi-Ethnic Survey of Coronary artery disease, which evaluated the link between dietary and cardiovascular diseases and sub - clinical peripheral arterial disease in 6,814 people aged forty years, revealed that higher BMI was linked with more unfavourable sugar levels pressure, lipid, and fasting glucose, as well as significant higher metrics of hypertension. The study was conducted on 6,814 people who ranged in age from 45 to 84 years. According to the findings of another study conducted in an Asia - pacific region population, a sharp rise of acute myocardial infarction by one standard deviation was related to be increased in risk of 17 percent for BMI, 27 percent for WC, 10 percent for waist circumference, and 36 percent for WHR (Alger et al., 2020; Ferdinand et al., 2020).

3.3 Issues of cancer

There have been a number of studies that have looked at the connection between obesity and cancer. According to the findings of a meta-analysis, the aggregated relative risks for different malignancies among subcategories of BMI varied from 1.05–2.29 in males and 1.13–3.22 in women. It is suggested that there was compelling evidence that being overweight or obese increased the risk of developing cancers of the throat, pancreas, small and large intestines, throat, endometrium, and kidneys. In addition, there was compelling evidence to support the theory that excess fat in the abdominal region was a causation of colon cancer and may possibly raise the risk of malignancies of the breast (postmenopausal) and endometrial (Harrison et al., 2022; Majeed et al., 2022; Turner et al., 2020).

4. Conclusion

There are significant negative effects on one's health as well as increased expenses for medical treatment when one is overweight or obese. The genesis of obesity is complicated, including intricate interactions among many social and environmental variables, medications, and one's genetic history. An issue of public health that aims to build population-based policies for the avoidance of obesity and overweight should target variables that cause weight gain, should be comprehensive, and should actively include varying facets of partners and other key parties. Potential policies that might contribute to the creation and execution of such initiatives should extend beyond the scope of the home environment and into the socioeconomic surroundings at a more general policy level. On the other hand, there will most certainly be a great deal of resistance

to tactics that are focused on policies alone. It is ultimately up to individuals to make adjustments in their lifestyles in order to avoid and reduce the prevalence of overweight and obesity. Additional study into the factors that motivate people to engage in behavior modification is necessary in order to battle the obesity pandemic.

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