

Childhood obesity: causes and consequences for Considerations and Future Research

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Abstract

Childhood obesity has reached epidemic levels in developed as well as in developing countries. Overweight and obesity in childhood are known to have significant impact on both physical and psychological health. Overweight and obese children are likely to stay obese into adulthood and more likely to develop non-communicable diseases like diabetes and cardiovascular diseases at a younger age. The mechanism of obesity development is not fully understood and it is believed to be a disorder with multiple causes. Environmental factors, lifestyle preferences, and cultural environment play pivotal roles in the rising prevalence of obesity worldwide. In general, overweight and obesity are assumed to be the results of an increase in caloric and fat intake.

Keywords: Childhood obesity; consequences; epidemiology; lifestyle; non-communicable disease; overweight

Introduction

Adopting a multi-component approach which encompasses changing behavioral and physical aspects is likely to be more effective than a single component diabetes prevention program. Lessons from large lifestyle interventions combining a variety of physical activity patterns with different healthy dietary regimes have unequivocal evidence about their joint long-term effectiveness compared with adopting a single component whether exercise, diet or medication alone.^{4,5} For example, the Finish diabetes study was first to show a remarkable 58% reduced rates of diabetes incidence when a longitudinal multi-component intervention (behavioral, exercise and dietary) was followed by individuals with glucose intolerance.³ Similar longitudinal diabetes risk reduction of 58% was found for those with pre-

diabetes in the US diabetes prevention program when exercise and diet approaches were combined, compared with almost half (30% reduction) found when relying on insulin-sensitizing drug Metformin.⁵ A fifteen-year follow-up of the latter showed that medication did not elicit better risk-reduction benefits than a multi-component lifestyle intervention. Addressing as many lifestyle components as feasible is also important. For example, it is now known that sedentary behavior and sleep patterns are associated with the development of diabetes.¹² Recent research evidence has classified sedentary lifestyle behavior, such as TV watching, prolonged sitting hours or driving as an independent risk factor for type-II diabetes.^{12,13} Reported as- *Obes Res Open J.* 2019; 6(1): e5-e6. doi: 10.17140/OROJ-6-e015 e6 Alkhatib A Editorial | Volume 6 | Number 1| sociations include higher type-2 diabetes incidents, cardiovascular disease and all-cause mortality independently of leisure-time physical activity.¹³ Since it is difficult to quantify such behaviors in physiological terms, cardiorespiratory fitness remains the gold standard for measuring physical activity or its lack, since that least cardiorespiratory fit individuals suffer from significantly increased chronic disease risks and all cause-mortality risks.¹⁴ Therefore, sedentary behaviors, physical activity, and cardiovascular health can all be assessed through cardiorespiratory fitness as an essential vital sign,¹⁵ and so it should form an integral part of any lifestyle intervention. The scientific knowledge about the behavioral, lifestyle and biological components is continuously evolving, which enables better targeting of several modifiable disease risk factors for diabetes and associated diseases. This also requires integrating exercise science, nutrition and behavior approaches to personalize future lifestyle interventions. Future studies can take forward previous success stories using multi-component lifestyle interventions based on contemporary knowledge and recent technological advances relevant to the 21st century.

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that the experiences shared can have a positive impact on the lives of future generations.