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### **Emotional impact of obesity on adolescent**

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### Abstract

Adolescents is aperiod of crucial phase of growth and development. It is a particularly vulnerable time for the development of Obesity. An obese Adolescent is associated with increased morbidity and mortality in their adulthood, sothis article describes about obesity as a serious health problem which affects the physical, emotional and intellectual development, they are also likely to suffer emotional and social effects associated with overweight. Overweight in youth has been linked to depression, low self-esteem, eating disorders, negative body image, and stigma. It appears to be bi-directional in nature, with overweight sometimes predicting certain psychological effects and psychosocial issues sometimes predicting overweight.

Keywords: Adolescents, obesity, overweight, body mass index, multifactorial

#### Introduction

The lack of physical activity and sedentary habits with overeating, unhealthy eating are the most causes of the increase of obesity. Obesity is a multifactorial disease, the product of the complex interaction of genetic, hormonal, physical, nutritional, social, and environmental factors. Overweight and obesity are growing in childhood and adolescence all over the world. A lot of studies show that sedentary behaviours independent of physical activity levels are associated with increased risk of all-cause mortality and psychological problems [ (Ranucci et al., 2017) [2] Obesity is the accumulation of excess body fat associated with medical consequences. The aetiology of all obesity is both complex and multifactorial. It is well recognised that the development of childhood obesity is an interaction between the modern obesogenic environment and family lifestyle choices. Increases in the amount of energy dense foods eaten combined with large portion sizes, more time spent watching television, using computers and playing video games (screen time) with a simultaneous decrease in the amount of physical activity undertaken by children have all been mooted as causes of the current epidemic (Stewart, 2015) However, limited literature is available on prevalence of Adolescent obesity in India. While under-nutrition in children has been the major public health concern in India over the past several decades 11, little attention has been paid to childhood overweight and obesity until recently. The emerging evidence suggests an increase in over-nutrition status among children as well as adult (Aloketal., 2012) [3].

### **Objectives**

The purpose of the study is to assess the knowledge and attitude regarding obesity among Adolescents and to reduce the long-term complications.

### Biological, behavioural and emotional factors which influence obesity

There are different pathways through which obesity is linked to educational outcomes. These pathways involve various mediating factors as described in Figure 1 biological factors (e.g. diseases), behavioral factors (poor nutrition and lack of physical activity), and emotional and mental health factors (e.g. low self-esteem, poor social connection).

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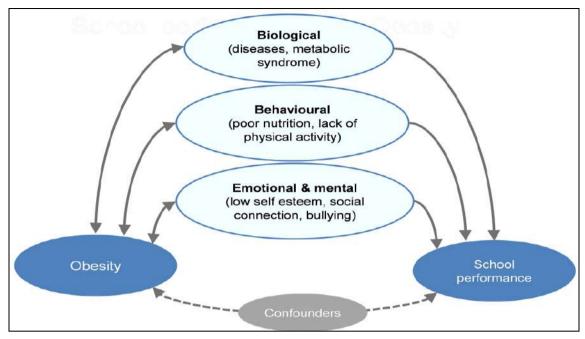


Fig 1: Relationship between obesity and educational performance

## Biological factors may adversely affect both body weight and cognitive functions

Obesity and its related diseases, such as metabolic syndrome, may have a direct effect on cognitive functions and concentration at school. For instance, metabolic syndrome was found to have an impact on cognitive functions and brain structure through physiological impairments. (Devaux *et al.* 2012)

### Behaviour may be associated with childhood obesity and lower concentration

There exists an interrelationship between unhealthy behaviours, obesity and educational outcomes. Behavioural risk factors, such as poor nutrition and lack of physical activity, may directly play a role on both obesity and low concentration at school, resulting in poor performance at school. For example, insufficient levels of physical activity can be both a cause and a consequence of obesity, and can lead to lower concentration.

A clear relationship between physical activity and cognition has been documented. A recent systematic review of 64 studies found that physical activity has a positive influence on cognitive functions as well as brain structure and function. (devaux *et al.* 2012).

# Emotional and mental health problems, related to bullying and stigma, can lead to poor academic performance

Emotional and mental health problems can also mediate the relationship between obesity and education performance. Overweight children and adolescents may often be excluded from friendships and bullied by other children. Because of this, overweight children may feel isolated, lonely or socially disconnected, they may have lower self-esteem, poor well-being and suffer from emotional and mental health problems These problems may have deleterious effects on educational outcomes. Children who are bullied and socially excluded by others engage less in class: they step aside and refuse to speak up for fear of being bullied. Moreover, behavioural problems in schools, such as

disobedience and violence, may emerge. (Devaux et al. 2012)

### Psychogical impact of obesity on adolescents

- Psychological research shows that stress is associated with overweight and obesity through changes in weight-related health behavior, as stress activates emotional brain networks and elevates the secretion of glucocorticoids and insulin. Both the emotional brain networks and the hormones influence different aspects of our eating behavior such as our food intake, food choice and eating motives (hunger and desire eating).
- Researchers found that 9- to 12-year-olds with obesity had self-esteem issues that went far beyond physical self-worth. In other words, tweens with obesity tended to be unhappy, higher levels of depression have been found in children and tweens with obesity.
- The parents also rated their obese tweens as being less competent in school and in social settings, putting their academic success and friendships at risk. Being held back a grade, lower test scores, and not going onto college have been linked to students with obesity, especially in female students.
- In particular, parents noted that their obese children had more "internalizing" problems (problems in which anger is directed inward), which may manifest as depression, anxiety, or eating disorders. They also had "externalizing" problems (problems in which anger is directed outward), such as aggression. (Hill, *et al.* 2017)

### Prevention

Promotion of a healthy lifestyle must start in childhood. Current government initiatives around healthy eating and increasing physical activities at schools may be helpful in the future. Dietitians, particularly those working in the area of public health nutrition, have a key role to play in prevention strategies. Growth in infancy and the early years is an important period in relation to the risk of obesity later in childhood and adulthood. It appears that infants at the

upper end of weight and BMI for their age, and also those who gain weight rapidly as infants, are at a higher risk of excess body fat and obesity later. Obesity may result in a number of psychological issues during the tween years. Therefore, taking steps to remedy the issue through changes in nutrition and physical activity can have important physical and psychological benefits.

Improvement of the quality of the catering offerings - Reducing the consumption of sugared beverages

- Strategies have been proven most favorable for the school-based intervention for obesity prevention:
- Interventions in schools involving healthy nutritional behavior, physical activity, and self-perception as well as involvement of the parents - Increasing the number of hours for physical education in schools and the development of extensive motor skills starting at a preschool age (Stewart, 2015)

### Dietary measures.

Initial measures include mild caloric restriction and

- alteration in dietary habits. Intake of 1200-1800 Calories, depending upon the age of the individual, along with 30-40% restriction is recommended. Overaggressive dietary restriction is associated with poor compliance and growth faltering. Apart from restricting calorie intake, efforts should be directed towards improving the nutritive value of the diet. Reduction in consumption of junk foods, carbonated drinks and saturated fat should accompany an increase in fiber, fruits and vegetable intake. Regular meal consumption with fixed portion sizes is an effective strategy in inducing weight gain.
- Lifestyle modification. Increase in physical activity along with reduction in sedentary lifestyle is a useful component of obesity management. Swimming, running and playing outdoor games should be encouraged. Physical activity for at least 30-45 minutes per day is recommended. Activities like television viewing, videogames and internet surfing should be restricted. (Paul et al. 2017) [6].

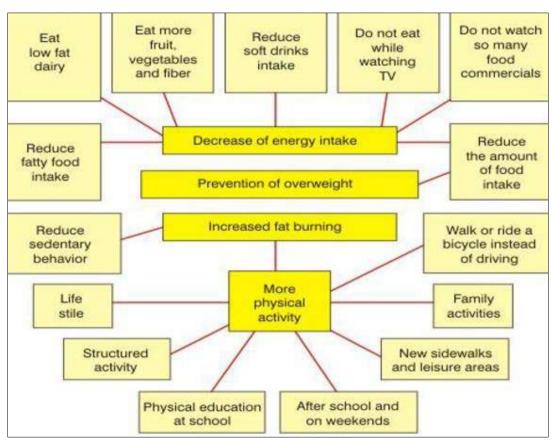


Fig 2: (Spetz Holm et al., 2012)

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