CODEN [USA]: IAJPBB ISSN : 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES
SJIF Impact Factor: 7.187

Available online at: http://www.iajps.com *Research Article*

EDUCATION AND LIFESTYLE MODIFICATION EFFECTIVENESS IN PREVENTING OBESITY AMONG CHILDREN

[1]MOHAMMED HUSSAIN ALSAMLI, [2]ABDULRAHMAN AHMED JABALI, [3]Bandar saad alharthi, [4]Abdullah Fasil Alhazmi, [5]Yaser Hamid M ALsaadi, [6]Hanin fayez alluhaybi, [7]Nehal abdulrahman Koshak, [8]Thelal muhammed felemban, [9]Shaker mohammed alsamli, [10]Thamer matoog AlSufyani

Article Received: July 2021 **Accepted:** July 2021 **Published:** August 2021

Abstract:
Childhood obesity is a recognized health related, and its prevalence is growing rapidly. The main treatment used to manage obesity in children is lifestyle modification encompassing changes in dietary intake and physical activity. Narrative review conducted up to 2021 regarding effectiveness of education and lifestyle modification in prevention of obesity among children. The findings of this research imply that stage-based lifestyle adjustments may be an effective treatment for managing pediatric obesity by maintaining weight and increasing physical activity.

Corresponding author:
MOHAMMED HUSSAIN ALSAMLI,

QR code

*Please cite this article in press **MOHAMMED HUSSAIN ALSAMLI** et al, **Education And Lifestyle Modification Effectiveness In Preventing Obesity Among Children**., Indo Am. J. P. Sci, 2021; 08(08).*

INTRODUCTION:

Childhood obesity is an international health concern affecting all socioeconomic categories and ethnicities, with global prevalence increasing rapidly over the previous four decades from 4% in 1975 to more than 18% in 2016 [1]. If current trends continue, researchers anticipate that by 2022, childhood obesity will outnumber moderate and severe underweight [2].

The increasing The prevalence of childhood overweight and obesity needs the development of efficient treatment options to prevent the development of chronic diseases in the future. An effective treatment that included behavioral change to manage nutritional intake and physical exercise resulted in a clinically meaningful weight loss in obese children [3], which was defined as a weight loss of at least 0.5 Body Mass Index (BMI) z-score units [4]. Prochaska and DiClemente's transtheoretical model (TTM), has been frequently used in behavioural change interventions related to smoking, emotional distress, alcohol abuse, weight loss and mammography screening [6,7,8]. The model's core organizing component consists of the stages of change (SOC), which depict the process that individuals go through to modify their behavior for health improvement [8].

Physical activity is an essential component of any weight management treatment for obese children in order to attain energy balance [9]. Previous research found that structured physical activity programs were successful at increasing activity-related energy expenditure, which improves body composition in obese children over time [9,10].

For these and other reasons, effective in the case of childhood obesity, therapeutic approaches are desperately needed. Lifestyle therapies are the most commonly recommended treatment for obese children [11]. However, the long-term usefulness of such therapies in clinical practice is frequently questioned, and results vary greatly between research [12].

METHOD:

Review conducted till the mid of 2021, for all studies that are concerned with the obesity among children, management approaches. Narrative review made through these papers. Limited to only human subjects with English language.

DISCUSSION:

The prevalence of obesity in the United States remains dangerously high, at nearly 10% among infants and toddlers, 17% of toddlers and adolescents, as well as more than 30% of adults [13]. While the frequency has largely stabilized in recent years, rates of extreme obesity have continued to rise, especially in high-risk populations [14]. Childhood intervention is critical due to the persistence of obesity into adulthood, which is associated with increased morbidity and death [14,15]. Comorbidities frequently afflict children before they reach maturity, necessitating greater attention in evaluating and treating these illnesses and resulting in higher healthcare costs [16,17]. Childhood obesity has a substantial personal and emotional impact: obesity can significantly reduce everyday quality of life [18]. Depression, body dissatisfaction, harmful weight management habits, stigmatization, and low self-esteem are some of the psychological consequences of obesity [18].

For some time, groups have lobbied for obesity prevention, but efforts to develop preventative strategies may have been hampered by the complexity and expense of long-term studies of a complicated problem, as well as an increased focus on treatments [19]. Despite 20 years of advancement, there is no apparent solution or "one-size-fits-all" strategy. Although cross-sectional and associational research have highlighted risk factors to address, and practical experience has provided a basis for working with children and families, the amount of evidence on proven preventative treatments is not substantial. Childhood obesity is extremely complicated, reflecting various systems that affect a child's health. Repetition of concepts might help in handling a complicated topic like kid obesity; the Ecological Model of Childhood Obesity (**Figure 1**) provides a broad framework for understanding the mediators and moderators of childhood obesity [19].

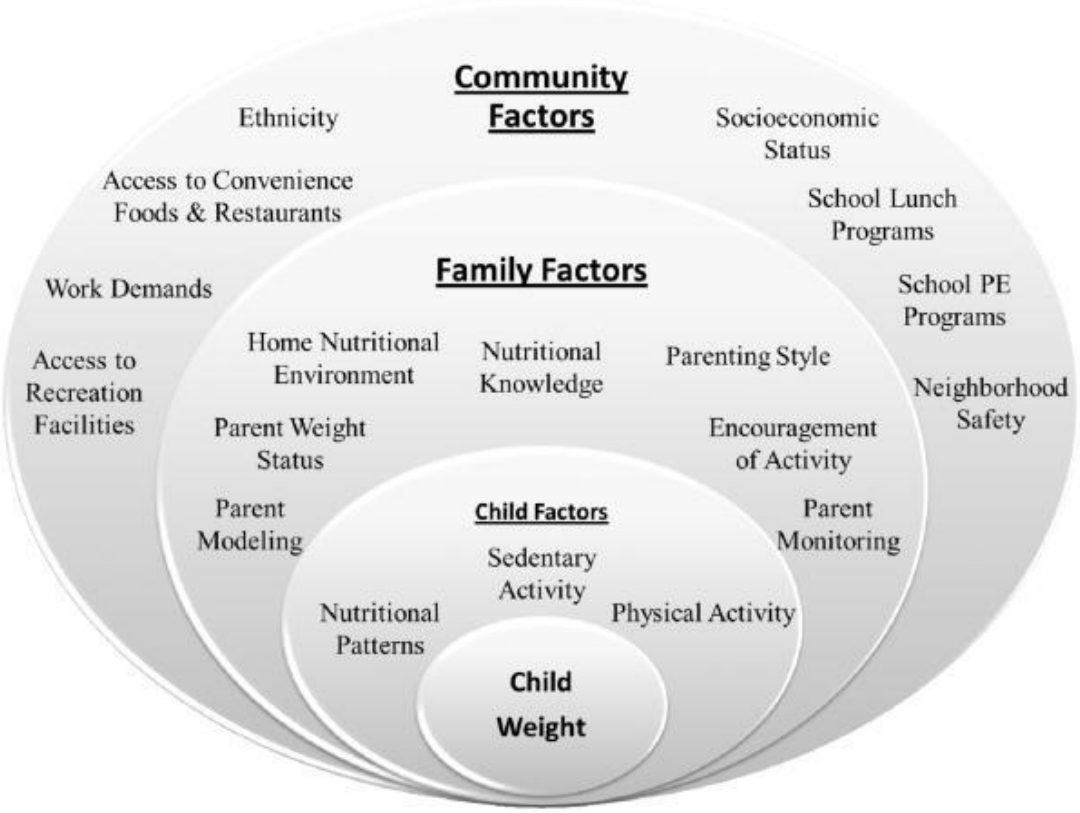

Figure 1: Ecological Model of Childhood Obesity

Nutrition and Diet:

Although it may appear intuitive that increasing overall calorie consumption would be related with an increased risk of childhood obesity, the evidence does not support this association [20]. Similarly, there is no obvious link between dietary fat intake and childhood obesity [21]. A reduced intake of dairy products or calcium is linked to childhood obesity, whereas research on fruit and vegetable intake is varied and does not show a strong link with childhood weight status [21.22]. Drinking habits may raise the risk of childhood obesity: Fruit juice, especially in excessive amounts; sugar-sweetened beverages; and sodas are all linked to childhood obesity [21,22,23].

Some specific Childhood obesity has been linked to eating habits. Skipping breakfast, eating meals away from home, particularly fast food, eating at a faster pace, eating greater portion sizes, and eating in the absence of hunger are all connected with childhood obesity. There is no consistent link between frequent snacking and childhood obesity, but eating meals as a family is negatively associated with childhood obesity [21,24,25].

While there may be conflicting evidence or ambiguous associations, clinicians can be confident in addressing unhealthy food intake, such as fast food, sugar-sweetened beverages, high-fat proteins, and processed snacks, and encouraging healthy food intake, particularly fruits, vegetables, lean meats, and sugar-free beverages. Underneath the intake of these foods are the habits behind them, which the clinician should be cognizant of during an interaction: foods eaten away from home, eating in the absence of hunger, snacking and family meals. Awareness of these issues can assist clinicians in working with families to prevent the development of unhealthy habits and build healthy ones to prevent excessive weight gain [19,25].

Physical Activity:

Overall, Obesity is linked to a decrease in physical activity in youngsters. Prospective studies assessing physical activity objectively have produced inconclusive results; nevertheless, investigations of either self-reported or parent-reported physical activity have shown an inverse connection between physical activity and both childhood and eventual adult obesity [26]. Some specific activity-related behaviors, such as sports team membership and active commuting to school, have an inverse connection with childhood obesity [27].

Physical inactivity and sedentary behavior are likely connected with childhood obesity, while the magnitude of the effect may be minor [20]. Some

prospective studies revealed that spending more time sedentary, such as watching TV or playing video games, was related with an increased risk of becoming obese in the future; however, other research found no link between sedentary activity and childhood obesity [28]. Screen time, including television and electronic devices, has also been linked to childhood obesity. While both increased idle time and decreased physical activity are linked to childhood obesity, the relationship may not be inversely proportionate. Regardless, attempts to reduce the former and boost the latter will be critical in preventing the development of obesity [28,29].

Sleep as contributing factor:

While there is less evidence regarding sleep, Shorter sleep duration appears to be linked to childhood obesity [30]. Some prospective investigations have confirmed this link, both in the short term in young children and in the long term in adults [31]. In combination with other positive household routines (eating as a family and limiting screen time), obtaining adequate sleep has a strong inverse relationship with obesity among preschool-aged children [32].

CONCLUSION:

Childhood obesity is a complicated medical issue that involves the interaction of physical and environmental variables. Multiple instances in which genetic variation might influence a person's weight status are included in the neuroendocrine control of weight. Unfortunately, the harmful growth of food and exercise environments has put youngsters at a larger risk for obesity and weight disorders than ever before. Although much more study is needed to enhance these tactics, interventions at the doctor, school, government, and family levels have demonstrated success in the prevention of childhood obesity.

REFERENCES:

1. Obesity and overweight. The World Health Organization. https:// www.who.int/news-room/fact-sheets/detail/obesity-and overweight. Published February 16, 2018.
2. Abarca-Gómez L, Abdeen ZA, Hamid ZA, et al. Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016: a pooled analysis of 2416 population-based measurement studies in 1289 million children, adolescents, and adults. Lancet. 2017;390 (10113):2627-2642. https://doi.org/10.1016/S0140-6736(17)32129-3
3. Oude Luttikhuis H, Baur L, Jansen H, Shrewsbury VA, O'Malley C, Stolk RP, Summerbell CD. Interventions for treating obesity in children. Cochrane Database Syst Rev. 2009:21(1).
4. Trinh A, Campbell M, Ukoumunne OC, Gerner B, Wake M. Physical activity and 3-year BMI change in overweight and obese children. Pediatrics. 2013;131(2):e470–7.
5. Prochaska J, Diclemente CC. Toward a Comprehensive Model of Change. In: Miller WR, Heather N. (ed) Treating Addictive Behaviors. Applied Clinical Psychology, vol 13. Boston: Springer; 1986.
6. Maxwell CJ, Onysko J, Bancej CM, Nichol M, Rakowski W. The distribution and predictive validity of the stages of change for mammography adoption among Canadian women. Prev Med (Baltim). 2006;43(3):171–7. https://doi.org/10.1016/j.ypmed.2006.04.018.
7. Wee CC, Davis RB, Phillips RS. Stage of readiness to control weight and adopt weight control behaviors in primary care. J Gen Intern Med. 2005;20(5):410–5.
8. Garrett NA, Alesci NL, Schultz MM, Foldes SS, Magnan SJ, Manley MW. The relationship of stage of change for smoking cessation to stage of change for fruit and vegetable consumption and physical activity in a health plan population. Am J Health Promot. 2004;19(2):118–27.
9. Lazaar N, Aucouturier J, Ratel S, Rance M, Meyer M, Duché P. Effect of physical activity intervention on body composition in young children: influence of body mass index status and gender. Acta Paediatr. 2007;96(9):1315–20.
10. Fletcher G, Balady G, Blair S, et al. Statement on exercise: benefits and recommendations for physical activity programs for all Americans. Circulation. 1996;94:857–62.
11. Summerbell CD, Ashton V, Campbell KJ et al. (2003) Interventions for treating obesity in children. Cochrane Database Syst Rev 3, CD001872.
12. Oude LH, Baur L, Jansen H et al. (2009) Interventions for treating obesity in children. Cochrane Database Syst Rev 21, CD001872.
13. Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of childhood and adult obesity in the United States, 2011–2012. *JAMA*. 2014;311(8):806–814.
14. Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of childhood and adult obesity in the United States, 2011–2012. *JAMA*. 2014;311(8):806–814.
15. Skinner AC, Skelton JA. Prevalence and Trends in Obesity and Severe Obesity Among Children in the United States, 1999–2012. *JAMA pediatrics*. 2014.

16. Wang YC, McPherson K, Marsh T, Gortmaker SL, Brown M. Health and economic burden of the projected obesity trends in the USA and the UK. *Lancet.* 2011;378(9793):815–825.
17. Cawley J. The economics of childhood obesity. *Health affairs.* 2010;29(3):364–371.
18. Vander Wal JS, Mitchell ER. Psychological complications of pediatric obesity. *Pediatr Clin North Am.* 2011;58(6):1393–1401. x.
19. Brown CL, Halvorson EE, Cohen GM, Lazorick S, Skelton JA. Addressing Childhood Obesity: Opportunities for Prevention. Pediatr Clin North Am. 2015 Oct;62(5):1241-61.
20. Agras WS, Mascola AJ. Risk factors for childhood overweight. *Current opinion in pediatrics.* 2005;17(5):648–652.
21. Davis MM, Gance-Cleveland B, Hassink S, Johnson R, Paradis G, Resnicow K. Recommendations for prevention of childhood obesity. *Pediatrics.* 2007;120(Suppl 4):S229–253.
22. Field AE, Gillman MW, Rosner B, Rockett HR, Colditz GA. Association between fruit and vegetable intake and change in body mass index among a large sample of children and adolescents in the United States. *International journal of obesity.* 2003;27(7):821–826.
23. Pan L, Li R, Park S, Galuska DA, Sherry B, Freedman DS. A longitudinal analysis of sugar-sweetened beverage intake in infancy and obesity at 6 years. *Pediatrics.* 2014;134(Supplement 1):S29–S35.
24. Lee V. Promising strategies for creating healthy eating and active living environments. *Convergence Partnership.* 2011
25. Chaput JP, Lambert M, Mathieu ME, Tremblay M, O'Loughlin J, Tremblay A. Physical activity vs. sedentary time: independent associations with adiposity in children. *Pediatric obesity.* 2012;7(3):251–258.
26. Drake KM, Beach ML, Longacre MR, et al. Influence of sports, physical education, and active commuting to school on adolescent weight status. *Pediatrics.* 2012;130(2):e296–e304.
27. Tremblay MS, LeBlanc AG, Kho ME, et al. Systematic review of sedentary behaviour and health indicators in school-aged children and youth. *The international journal of behavioral nutrition and physical activity.* 2011;8(1):98.
28. Chahal H, Fung C, Kuhle S, Veugelers P. Availability and night time use of electronic entertainment and communication devices are associated with short sleep duration and obesity among Canadian children. *Pediatric obesity.* 2013;8(1):42–51.
29. Appelhans BM, Fitzpatrick SL, Li H, et al. The home environment and childhood obesity in low-income households: indirect effects via sleep duration and screen time. *BMC public health.* 2014;14(1):1160. [PMC free article] [PubMed] [Google Scholar]
30. 38. Bell JF, Zimmerman FJ. Shortened nighttime sleep duration in early life and subsequent childhood obesity. *Archives of pediatrics & adolescent medicine.* 2010;164(9):840–845.
31. Al Mamun A, Lawlor DA, Cramb S, O'Callaghan M, Williams G, Najman J. Do childhood sleeping problems predict obesity in young adulthood? Evidence from a prospective birth cohort study. *American journal of epidemiology.* 2007;166(12):1368–1373.
32. Anderson SE, Whitaker RC. Household routines and obesity in US preschool-aged children. *Pediatrics.* 2010;125(3):420–428.