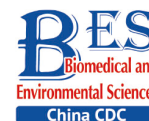


Policy Forum



Collaborative Efforts of Families, Schools, Health Care Providers, and the Government to Control Childhood Obesity in China

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INTRODUCTION

Globally, childhood obesity has gradually become prevalent in recent decades. According to estimations by United Nations International Children's Emergency Fund (UNICEF), the World Health Organization (WHO), and the World Bank, the global prevalence of being overweight for children under 5 years rose from 4.9% in 2000 to 5.6% in 2019^[1]. The Institute for Health Metrics and Evaluation (IHME) estimated that, between 1980 and 2015, the worldwide proportion of obesity increased from 3.9% to 7.2% and 3.7% to 6.4% in boys and girls aged 2–4 years, respectively^[2]. Meanwhile, the Non-Communicable Diseases Risk Factor Collaboration reported that the global prevalence of obesity rose from 0.9% to 7.8% and 0.7% to 5.6% in boys and girls aged 5–19 years, respectively, between 1975 and 2016^[3]. Globally, the total number of overweight and obese individuals reached 40 and 340 million in children under 5 years and aged 5–19 years, respectively, in 2016^[4].

With the rapid development of China's economy and society and the significant improvement of people's living standards, the behavior and lifestyle of children and adolescents have recently changed dramatically. Due to the heavy burden of schoolwork and the popularity of electronic products, unhealthy diets and physical inactivity are also becoming increasingly evident. Chinese Nutrition and Health Surveillance showed that the prevalence of obesity in China rose from 2.58% to 3.75% in children under 6 years and from 4.72% to 9.04% in children aged 6–17 years between 2002 and 2017^[5]. The compound annual growth rate was 2.5% and 4.4% between 2002 and 2017 for children under 6 years and children 6–17 years, respectively. According to IHME estimation, China has the largest number of children with obesity globally now.

Obesity in children and adolescents will increase

the risk of premature occurrence of chronic diseases such as obesity in adulthood, cardiovascular and cerebrovascular diseases, diabetes, and other chronic diseases. It will not only pose a threat to the health of individuals, but will also lead to heavy burdens for individuals, families, and society. The global community makes great efforts to control the childhood obesity pandemic. "No increase in childhood overweight by 2025" was endorsed by the WHO as one of the six global nutrition targets^[6]. The WHO established a commission on ending childhood obesity to develop recommendations for tackling global childhood obesity; the *Report of the Commission on Ending Childhood Obesity* was released in 2016^[7].

To achieve childhood obesity prevention and control set in the Plan of Healthy China 2030, the State Council's guideline to implement the Healthy China Initiative, Medium-to-long Term Plan of China for the Prevention and Treatment of Chronic Diseases (2017–2025), the National Nutrition Plan (2017–2030), and the Regulations of Food Safety Nutrition and Health Management in Schools incorporated childhood obesity control targets. In October 2020, the National Health Commission, Ministry of Education, General Administration of Market Regulation, General Administration of Sport, Central Committee of the Communist Youth League, and All-China Women's Federation jointly issued the *Implementation Plan for Childhood and Adolescent Obesity Prevention and Control* (hereinafter referred to as the Implementation Plan)^[8]. The current paper aims to brief global communities the Implementation Plan.

GOALS OF OBESITY PREVENTION AND CONTROL IN CHINA

National Goals

The national compound annual growth rate of

overweight and obesity prevalence between 2002 and 2017 was used as the baseline growth rate. The overall goal is to reduce the compound annual growth rate of overweight and obesity prevalence in children by 70% between 2020 and 2030. This is to lay the foundation for achieving zero growth of overweight and obesity in children and adolescents in the future.

Regional Goals

All provinces (autonomous regions and municipalities) in mainland China were classified into three epidemic levels (i.e., high, medium, and low) according to the prevalence of overweight and obesity in children and adolescents in each province in 2017. A specific goal was set for each level. Between 2020 and 2030, the goal for high, medium, and low epidemic level regions is to decrease the national compound annual growth rate at the baseline by 80%, 70%, and 60%, respectively.

ACTIONS

No single intervention, agency, or one-time action can halt the rise of childhood obesity. Life courses, multiple stakeholders, comprehensive and continuous approaches were developed to address childhood obesity. The four key stakeholders are family, school, health service institutes, and the entire government. Three critical life stages include preconception and pregnancy, infant and early childhood, and older childhood and adolescence. A balanced diet and physical activities are promoted for children and adolescents. An obesogenic environment is corrected through the entire society's collaboration.

Family Actions

Healthy Diet Habit Development The parents and/or caregivers must fulfill their duties to develop the healthy dietary habits and lifestyles of the child. The concept that parents and/or caregivers should be the first person responsible for children's health is widely accepted. Parents or caregivers must improve their nutrition and health literacy to increase dietary diversity, make healthy food choices, and cook healthy food for their children, with less fried food, less oil, salt, and sugar when cooking at home; and reduce the frequency of eating out. Sugar-sweetened beverages should be consumed less or avoided in the child's diet. Parents should train and guide young children to eat on time and by

themselves. Beginning in early childhood, healthy eating habits must be developed.

Physical Activity Habit Development A family that fosters an environment supporting physical activity allows physical activity to become a family norm. Parents should encourage their children to participate in outdoor activities and physical exercises and try to do exercises with them. Children and adolescents would become interested in physical exercises and develop the habit of physical exercise. Screen time for children should be limited in the family, and children require an adequate sleeping time.

Growth Monitoring for Children Parents and caregivers should fully understand the adverse effects of overweight and obesity, regularly measure and record the height and weight of children, and evaluate the growth of children and teenagers according to relevant standards. If necessary, parents should consult professional institutions and intervene following professional guidance.

Strengthen Community Support Community healthy lifestyle workers and social physical exercise instructors may provide dietary and physical activity guidance and education to families, community canteens, and catering units to improve the practical operability of healthy lifestyles among parents and caregivers through the village (community) committee. Breastfeeding is promoted through the community, and a breastfeeding-friendly environment is created. Maternity leave is fully implemented and breastfeeding rooms are established in public places and worksites.

School Actions

School responsibility must be strengthened to maintain the healthy weight of children and teenagers.

Improve Nutrition and Health Education Class Knowledge regarding diet, nutrition, and physical activity should be integrated into the daily routine education of kindergartens, primary schools, and secondary schools. Age-specific nutrition and physical activity learning resources should be enriched. Diet, nutrition, and physical activity knowledge should be incorporated into teacher training. Nationally, schools should effectively promote nutrition knowledge combining with *Nutrition Improvement Program for Rural Compulsory Education Students* and school dining work. Overweight and obesity should be correctly understood to avoid discrimination against children with obesity.

Improve Food Supply at School School meal guidelines for kindergartens, primary, and secondary schools should be reformulated and school meal staff must be trained. School meal supplier access policies must also be set. Full-time or part-time nutrition and health management personnel are recommended for each school. If possible, nutrition professionals are preferred. The dietary pattern and cooking methods for school meals should be optimized to meet the nutrient requirements of students, with locally available food if possible. Fresh vegetables and fruits, whole grains, and appropriate amounts of fish, meat, eggs, and milk should be provided. Conversely, high-sugar, high-fat, or high-salt food should be avoided. Drinkable water according to the national standards should be freely available at school. School senior officials are required to dine with students in canteens to supervise the nutrition and safety of school meals.

Ensure Adequate Time for Physical Activity at School National physical education (PE) and health curriculum standards should be fully implemented, and PE scores should be counted into *high school* and university entrance examinations. PE and extracurricular exercises must be strengthened. Class breaks for students must be ensured without delay or early starts. Students may stretch and perform appropriate physical activities during breaks to reduce long sitting behavior. Time for outdoor activities must not be less than two hours, including at least one hour daily for sports for preschool children. More than one hour of at least moderate-intensity physical activity daily is recommended for students. Finally, at least three hours weekly of high-intensity physical activity must be ensured for muscle strength and strong bones.

Medical and Health Institutions' Actions

Strengthen Weight Management during Pregnancy

Nutrition assessment, diet, and physical activity guidance will be included in perinatal care. Nutrition screening and interventions will be conducted to maintain appropriate weight pre-pregnancy and prevent excessive or inadequate weight gain during pregnancy.

Strengthen Weight Management among Children and Adolescents

Primary public health services for children under 6 years will be fully implemented. Breastfeeding and complementary feeding knowledge, skills, and consultations will be promoted widely. The growth of the child will be

monitored. Finally, the capacity of school clinics (e.g., clinics, school hospitals, health rooms) to regularly monitor overweight and obesity among children and teenagers and timely execute health education and guidance will be improved.

Strengthen Interventions for Children with Obesity

Diet, physical activity, and psychological support will be provided to schools and families to manage the weight of children with obesity. Medical and health institutions are encouraged to provide individualized nutrition and exercise plans for children who are overweight/obese. Children who are obese and with co-morbidities should be treated under the guidance of medical doctors.

Government Actions and the Construction of an Enabling and Supportive Environment

Popularize Knowledge and Skills for Obesity Prevention and Control

Multiple platforms including communities, parents, schools, and health classes will be used to disseminate knowledge regarding obesity prevention and control. Popularizing scientific dietary recommendations becomes institutionalization and normalization with innovative ways and various forms of public media. Chinese dietary guidelines, physical activity guidelines, and childhood obesity prevention and control related knowledge will be widely disseminated. Scientific and operable obesity prevention and control skills will be popularized to the entire society based on local conditions. Scientific popularization will be supervised to avoid the dissemination of misleading information.

Strengthen Food Marketing Management

Food marketing laws and regulations will be improved. The marketing and advertisement of breastmilk substitutes, as well as the production and marketing of complementary food, will be further regulated. The marketing of high-sugar, high-fat, or high-salt foods will be limited. Similarly, government rules and regulations shall regulate food labeling to limit the use in packaging of pictures, descriptions, and designs attractive to children.

Improve Sports Facilities for Children and Adolescents

Community exercise spaces, fitness trails, cycling paths, sports parks, and multi-functional sports venues will be built. Public sports facilities will be open to children and adolescents for free or at discounted prices. School sports facilities will be available to children and adolescents in their spare time and during holidays. Drinkable water in sports venues will be available for free for children and adolescents.

ORGANIZATION AND IMPLEMENTATION

Strengthen Government Leadership

Local governments recognize the significance of obesity prevention and control for children and adolescents and prioritize these in the government agenda. The implementation plan will be well achieved through coordinated mechanisms, strengthened organization and implementation, and a long-term working mechanism.

Create a Supportive Social Environment

Society understands the impact of diet, physical activity, and supportive environment on overweight and obesity prevention through the publicizing of the implementation plan, creating a supportive social environment.

Coordinate and Integrate all Social Sectors

Childhood obesity prevention and control will be effectively integrated with national healthy lifestyle initiatives, national fitness initiatives, basic public health service projects, and other related works within limited resources. Civil society, including professional societies, technical institutions, and enterprises, will be encouraged to actively participate in the implementation of the plan to ensure better operation support.

Strengthen Monitoring and Evaluation

The National Health Commission, together with relevant ministries, will formulate monitoring and evaluation methods, organize and execute timely monitoring and evaluation, and promote the implementation work. Health and education departments at all levels should organize nutrition, health, and physical fitness monitoring of students regularly to scientifically evaluate the progress and effect of obesity prevention and control.

CONCLUSION

The Chinese government recognizes the

importance and significance of childhood obesity prevention and control. Childhood obesity control requires a multisector, collaborative approach involving families, communities, schools, and health systems to cultivate a non-obesogenic environment. The government takes leadership with involvement from society and all stakeholders, and a life course approach is adopted to end childhood obesity.

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