

Childhood obesity prevention in Hong Kong: A life-course approach.

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Abstract

Obesity has been a massive but silent killer, resulting in serious health problems such as cardiovascular disease, diabetes, hypertension and even cancer. In Hong Kong, the prevalence of children obesity is increasing yearly. Life-course approach has been recommended as a comprehensive prevention to reduce health burden of children obesity.

Keywords: Childhood obesity, Life-course, Health prevention, Hong Kong.

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Introduction

Childhood obesity has become a major public health in Hong Kong [1]. One major reason is the under appreciation of obesity's risk factors across the life course [2]. Researchers have stated the relationship between family [3-5], development factors [6], activities and children's obesity. In face with obesity endemic, it is high time to take into account a life-course approach [7-9].

Life-course approach

Three initial stages in life course will be analyzed with appropriate prevention measures and macro-level interventions.

Pregnancy and fetal development

Maternal obesity, a risk factor to higher birth weight, has shown association with children obesity [10,11]. Other risks predictors including pregnancy diabetes [12], pregnancy smoking [13] correlated with infant overweight. Evidently, mother's dietary and behaviors during pregnancy can determine infant's weight. Therefore, child obesity prevention should start from prenatal period. Dietary and lifestyle counseling [14], routine prenatal care [15], home visits and peer group [16] have shown significant improvement on maternal health. A program applying family-centered individualized approach to change pregnant women behaviors should be considered [17] by integrating collaboration between healthcare and social community [18].

Infancy, childhood and adolescences

Though there are not strong evidences of breastfeeding as a determinant of obesity [19], studies have shown breastfeeding practices have a modest protective effect on childhood and adolescent obesity [20-23]. Regardless of many interventions [24], breastfeeding practices in Hong Kong still decrease due to infant formula usage [25], workplace and public discrimination [26]. To foster a supportive environment for women, Department of Health should consider pre and postnatal program including in-hospital and home breastfeeding support and consultants [27-29], maternity leaves, workplace and public breastfeeding policy. Mass media is also recommended

for breastfeeding awareness and breastmilk substitutions control [30].

Nutrition, physical activities and screen time are important factors that can affect obesity status. Since children's habits are heavily influenced by family cultural and norms [18], parents are key agents of change to tackle obesity. Initially, parents' feeding practices, behaviors [31] and their concern about children's weight [32] are important factors in determining children diet. Studies suggested early parent-focused interventions can have promising effects on children's obesity [33]. Education sessions with parenting skills [34] and parent-child co-attendance [35] have shown a lot of impact. Besides parental-care, informal care from domestic workers and grandparents also associated with higher prevalence of children obesity [36]. Though childcare intervention for grandparents have shown much progress in children's health [37,38], such intervention for domestic helpers are not prevalent. Further research into this may help design better interventions.

As where children spend most of their time in, school plays an important role in their healthcare. Nutritional and physical health campaigns have been exercised in many schools in Hong Kong with promising outcomes [39]. However, the program might not achieve optimal effect with low parental engagement. Schools should consider better integrating schemes to encourage parents' participation, including parent-school discussion, parent-child workshop. Activities integrating school curriculum and parent-teacher association is highly recommended for better health outcomes [40-42].

In addition, health behaviors also shape by peer influences, most prevalence in adolescences. Studies show a strong association between peer pressure and the risk of obesity development, both negative and positive [43]. School activities such as counseling, peer-to-peer groups can support students in this matter. Such school-based intervention should take into account cultural diversity, socio-environmental improvement and follow-up assessment [44].

Obesity prevention initiatives should also engage children centers, religious community, family clinics to support family nutrition education and physical activity [45]. These

institutions can easily deliver education through multiple channels. Besides, child centers and clinics can provide treatment and intervention for obese children [46]. A multidisciplinary collaboration between family, schools and other community sectors should be considered to bolster healthy practices on obesity.

In the midst of obesity information, parents and schools might feel overwhelming to find a suitable dietary plan [47]. Department of Health should consider publish a comprehensive guidelines for children's diet and lifestyle aligned with Hong Kong cultural and provide training on obesity prevention for healthcare staffs [30].

Macro-level

Besides primary prevention, to sustain healthy behaviors, intervention such as environmental changes and policy enforcement must take place. As media uses and global trade increases, so has children's expose to obesity's risk factors [2]. With increasing sugary products [48] and fast food [49], Department of Health should collaborate with government to target food and drink industry.

Multisectoral approaches through sugar beverage and fast food advertisement limitation [50-52], food labelling, fast food and sugar taxes [53,54] have been implemented in many countries with prominent reduction in unhealthy food consumption. Nevertheless, collaboration with governmental and private sectors including agriculture, trade, finance, civil development, etc. can contribute [23].

Conclusion

To comprehensively tackle childhood obesity, public health in Hong Kong should consider intensive life-course approach not only in health sector but also other jurisdictions in government. An integrated, systems-oriented life-course model that incorporates at multilevel of prevention can help mitigate children obesity and overall obesity prevalence in Hong Kong. Under the light of school and parents play in the model, the impact on school and parents behavior should be monitored through a strong collaboration between healthcare providers and education sectors. The results should be evaluated by Center of Health Protection through cohort study or population behavior survey.

Conflict of Interest

The authors declare that they have no competing interests.

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