

## **ESSAY OBESITY**

### **Perceived barriers for prevention and treatment of obesity among primary school children.**

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Childhood obesity poses a global public health threat and has risen to an alarming level worldwide. It is one of the public health challenges of the 21<sup>st</sup> century. This problem is global and affecting most of the low and middle-income countries, for urban settings. Obesity by definition is an abnormal or excessive accumulation of fat that impair health condition whereby for children aged 5-19 years old, obesity is defined as BMI greater than 2 standard deviation percentiles of the WHO Growth Reference median for children and teens of the same age and sex. Primary school children in Malaysia referred to the group of children ranging age 7 years old to 12 years old. WHO notes that childhood obesity is associated with a higher chance of premature death and disability in adulthood. Obesity among primary school children is a complex issue, and it is the result of interactions between multiple factors which may include the genetic, parent and school environment factors. (Nasri, 2017)

The prevalence of obesity has increased by years. Globally, over 340 million children and adolescents aged 5-19 were overweight or obese in 2016. The prevalence of overweight and obesity among children and adolescents aged 5-19 has risen dramatically from just 4% in 1975 to just over 18% in 2016. The 2013 South East Asian Nutrition's Survey cited that 21.6 percent children between six months and 12 years old fell under the overweight or obese category. According to a study in the child and adolescent study in Asia conducted by Poh et al in 2013, Malaysia is one of the top three countries with a high percentage of obese children (between six months to 12-year-old). In 2015, a local study by Vikneswaran et al found that there was a sharp rise in prevalence obesity among the standard 1 and standard 6 children. This might relate to the action taken by Ministry of Health Malaysia that emphasize on early detection of obesity among them through implementation of new guidelines and data collection improvement. Besides, this rise is also influenced by replacement of new CDC Growth Chart (2001-2007) BMI for Age, which was more sensitive in detecting childhood obesity. The current Chart was drawn according to Asian children in comparison to previous chart which was based on western population.

The underlying pathology of childhood overweight and obesity is an energy imbalance between the calories consumed and calories expended. The global increase of childhood obesity is attributable to several factors. First, there has been a global shift in diet towards increased intake of energy-dense foods that high in fats and sugars, but low in vitamins, mineral, and another healthy micronutrient. This usually happened among primary school children whereby they are more interested with consuming a junk food as it tastes better for them. Besides, there is also trend towards reducing physical activity levels due to increasing sedentary nature of many forms of recreation time, changing mode of transportations, as increasing urbanization. Nowadays most of parent opted to send their children to school by themselves or hire a trusted transporter rather than allowing their kids to cycling alone to school which may be due to several reasons such as safety. In order to achieve the best score in their syllabus, children will spend most of their time by study at home and this will ultimately reduce their outdoor activities and this led to a sedentary lifestyle among school children. (Mavis Soo Zi Qing, 2017)

Obesity is associated with significance health problems in childhood and adolescence and a neglected childhood obesity during the early stage could extend to teenagers and adulthoods, and increasing risk to obesity related disease later in their life. This problem should be addressed and managed effectively as it may leading to many health-related complications such as heart and lung disease, digestive system complications, and underdevelopment of muscle and bones. As for example, the heart diseases, being obesity for a long term, they may have higher risk of development of early

atherosclerosis which was evidently associated with the number and severity of risk factors. Study done by Bogalusa Heart Study found that BMI most strongly associated with insulin levels whereby in the study, 40% of children with a BMI > 99<sup>th</sup> percentile will obtain a high insulin level which later will lead to hyperinsulinemia and insulin resistance, a precursors of type-2 diabetes mellitus. The high prevalence of diabetes in youth today is mostly from those diagnosed as obese in childhood. (Mavis Soo Zi Qing, 2017)

Obesity is influenced by multifaceted determinants of health such as ethnic and gender, genes, socioeconomic, emotions, and environmental factors. Identifying each of these determinants are crucial to implements the intervention and strategies aiming to reduce the incidence of obesity. A local study found that in general population, women are more prone for obesity than male counterpart with Indian would be the most and followed by Chinese and Malay. However, for male, they found that Chinese were the most obese in comparison to other ethnicity most probably due to their dietary intake whereby Chinese man consume a highest fat intake. Gender and cultural background thus play an important role in identifying the potential group who are at risk of developing obesity so that an intervention targeting on specific group at risk can be carried out to reduce the incidence and prevalence of obesity. Genetic factor may contribute a role to predict obesity. Scientist have identified the gene which is responsible in predisposing the child to become obese, whereby MC4R gene mutation found in a small fraction of obese person which cause the affected child feel extreme hunger and become obese due to hyperphagia. However, not all obese children have an obese parent. Genetic factors may play a role but the most important is the environmental factors which triggers the obesity.

A study done by G G.L Engel's (1977) found a biopsychosocial model to link all the factors such as biological, psychological, and social factors that are interlink with each other to increase sedentary activity, and promote unhealthy eating behaviours. In view of current modernization, children opted for sedentary indoor activities such as playing computer games, cell phones, and television other than physical activities. This was further aggravated by some of parent behaviour whom always busy with their own working life whereby they do not have time to monitor their own child development. Not only physical activities, parent nowadays prefer to feed their children with fast foods due to the convenience of the fast foods' outlet, advertisement, and availability of junk food, which indirectly promoting the unhealthy eating behaviour among children. This might be slightly different for the children from a lower socioeconomic background whereby they were at a higher risk of developing obesity in comparison to higher income family by the other reason. For a parent from lower socioeconomic background, they are more likely to buy the cheapest food due to budget constraints. These types of foods usually have a low nutrition value and high with saturated fat and other components which predispose them to obesity. This scenario worsened as the demanding cost of living each year which affects the food security of a certain population indirectly.

Teaching a healthy behaviour among children should start at young age as it may be difficult as the child grow. The behaviours may include nutrition and physical activity as these two are the most important aspect in preventing obesity among children. For primary school children, families and school are the two most links in providing the foundation for these behaviours. Parent are the most important role models for a child. Parent should understand the importance of regular physical activity for their children and encourage for it. Perhaps parent may enrol their child with outdoor activities such as, swimming, tennis, at school or in the community. The inactive indoor activity such as watching tv should be limited. Besides creating active environment, parent should pay attention to the dietary part of the children. They should practice consuming healthy diet rich of vegetables, fruits and wholegrain and this ideally must be implemented for the whole family members and not only the child. Perhaps the portion of each meals should follow as per Ministry of Health guideline.

The primary school children spend most of the time in school during weekdays and occasionally over the weekend. This marks the importance of schools' role in preventing the obesity. Perhaps an environment consists of physical activity habits and healthy foods are provided to the children. School should ensure the foods provided during break time contains less fats and oils, sugar and salt, and to promote healthy snacks such as fruits and vegetables. The sales of junk and unhealthy foods should be banned strictly. Besides, school may also provide physical and social environment that encourage and enable children to engage in a safe and enjoyable physical activity.

WHO recognize changes in society is one of the underlying reasons for increasing the prevalence of childhood obesity. The imbalance lifestyle among children is not only linked to the children behaviour only but it also related to social and economic development, urban planning, the environment, food processing, distribution and marketing, as well as education. The problem is societal; therefore, it demands a population-based multisectoral, multidisciplinary and culturally relevant approach. Unlike adult, children cannot choose the environment in which they live or the food they eat. They also have a limited awareness about the long-term complication of their current behaviours, therefore, they required special attention from multisectoral to fight against this obesity.

There are numbers of guideline and strategies have been implemented to manage childhood obesity in Malaysia and few of them are overlap with each other's whereby this may create undesirable confusion among different government agencies. These guidelines and strategies might be neglected for some instances due to shortage of staff and eventually will affect the continuity of those programs. Restructuring current available strategies into perhaps a comprehensive single module might provide a better result in achieving the objectives. Besides, the current surveillance system for obesity monitoring must be standardized to avoid any discrepancy in the data collected as it must be reliable and valid to provide a better formulated strategy in combating this issue. Any programmes or strategies are meaningless without a proper monitoring system. Lacking in human resources is one of the most important problem that play important role in determining the successful of any programmes. It may affect the aim to combat obesity among children due to improper implementation and monitoring of the respective programmes. (Vikneswaran A/L Sabramani, 2015)

Numbers of researches are required to be conducted to evaluate the nutrition gaps in the current curriculum (preschool, primary, secondary, and higher education) with the aim to identify the most effective methods in promoting a healthy eating among school children and to determine the behaviour modification in management and maintenance of normal body weight among students. There are also limited research done to identify the presence of any environment interaction which may influence the incidence of obesity among children in Malaysia. Parents should be empowered to actively involved in their children's school to formulate activities with aiming to reduce incidence and prevalence of obesity among their children. This is to reduce their attitude of solely depending on the teachers for grooming their own children. Obesity is indeed a major public health concern due to its huge negative impact on the society at large which is well supported by evidence-based literatures, managing this issue is complex and holistic approach is thus crucial in reducing its incidence and prevalence. (Vikneswaran A/L Sabramani, 2015)

(1922 words)

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