Healthy School Canteen Intervention

Subjects: Nutrition & Dietetics

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Implementing a school-based intervention to promote healthier dietary habits in the school environment among Malaysian adolescents using qualitative methods. This qualitative study was conducted in four secondary schools in Perak and Selangor (two urban and two rural schools) that received the intervention (either training or training and food subsidy). A total of eight focus groups (68 students aged 15 years old) and 16 in-depth interviews were conducted with canteen operators, school convenience shop operators, school teachers and school principals in each school. Thematic analysis was used to analyse the qualitative data to identify suitable themes. Finding several initiatives and changes by the schools' stakeholders to change to a healthy school canteen programme. The stakeholders also noticed the students' food preferences that influence healthy food intake in canteens and convenience shops. The food vendors and school administrators also found that subsidising healthy meals might encourage healthy eating. Among barriers to implementing healthy school initiatives were the student's perception of healthy food and their eating habits, which also affect the food vendors' profit if they want to implement a healthy canteen. The school-based intervention has the potential to promotes healthier eating among school adolescents. Continuous training and monitoring of canteen operators and convenience shops are needed, including building partnerships and educating the students on healthy eating to cultivate healthy eating habits.

healthy eating diet school-based canteen fruits vegetables coupons

1. Introduction

Globally, childhood obesity is becoming one of the major problems in public health, with one in every ten young people aged 5–17 being overweight or obese [1]. Middle and low-income countries are not exempted from this, with the prevalence of obesity among school children in Malaysia rising to 11.9% in 2015 from 6.1% in 2011 [2][3].

Obese adolescents consume more energy-dense diets that are high in sugar, oil, fat, and processed foods compared with adolescents who have a normal body mass index [4][5]. Particularly, male adolescents tend to have poor dietary intake high in sugar and salt with low consumption of fruits, vegetables and dairy products, and higher energy and macronutrient intake than female adolescents [6][7][8]. The Malaysian Health and Adolescents Longitudinal Research Team (MyHeART) study among Malaysian adolescents suggested that students who live in rural areas consumed more sugar, cholesterol and energy in their dietary intake than their peers in urban schools [4]. Several other studies also showed that Malaysian adolescents are likely to consume unhealthy foods and practice unhealthy eating behaviours [9][10]. Poor dietary intake, such as high intake of processed foods, soft drinks and confectionery, can significantly reduce performance in school, while intake of fruits, vegetables and milk can significantly improve curricular and co-curricular performance [11]. As more than 12% of adolescents in Malaysia

are at high risk of developing cardiovascular disease (CVD) later in life, early interventions on healthy dietary intake and lifestyle modification are essential to reduce the progression of developing CVD in the future [12]. Intervention as early as in adolescent period is more effective than intervention during adult's years, and this intervention in the long run will minimise the risks of developing non-communicable diseases in the future[13].

Schools are a strategic platform to cultivate healthy food intake behaviour and obesity prevention as students spend most of their time daily in school [14][15]. Providing healthy foods in school canteens can help improve children's performance in school and educate them on the importance of healthy dietary intake in adulthood [11]. The school environment poses an opportunity to cultivate healthy eating habits among children and adolescents, as students spend at least six hours in school per day[16]. School meal programmes can be used as strategies to improve fruits and vegetable intake, while exposing children to various fruits and vegetables during school meals seems to help improve the intake of fruits and vegetables at home [17][18]. The recommendations on healthy eating, specifically for children and adolescents are included in the Malaysian Dietary Guidelines for children and adolescents [19]. Based on the guidelines, children and adolescents are encouraged to consume fruits, vegetables, milk and dairy products, as well as plenty of water daily [19]. It is important to introduce a targeted healthy dietary intervention programme for school children to improve their healthy food intake and preferences and reduce the prevalence of emerging non-communicable diseases later in life [2][4][20].

Implementing a school-based intervention to promote healthier dietary habits in the school environment among Malaysian adolescents. The facilitators and challenges of implementing the intervention regarding its feasibility and acceptability are explored from several important school stakeholders, namely the school administrators, canteen operator, convenience shop operator and the students. This qualitative study is important to explore the stakeholder's insights and opinions on the intervention to identify ways to improve the availability of healthy foods within the school environment and acceptance of the students on healthy foods.

2. Initiatives/Changes to Healthy School Canteen Programme

The feasibility study concluded with mixed opinions on the changes that were implemented in the canteen and convenience shops. Most of the students noticed the increased food choices in both the canteen and convenience shop. However, they perceived that the availability of healthy foods was still low. The canteen and convenience shop operators claimed to have stopped selling energy-dense foods and noticed a decrease in their sale profits. By reorganising the sugar-sweetened beverages (SSBs) in the drink section in the convenience shops, the sale of non-sweetened beverages had increased, with most students preferring to buy mineral water and juice. The convenience shop in the intervention schools also took the initiative to sell fruits to students. Most students in Intervention-2 used the provided food coupons, while some reported that they continued eating vegetables outside the school even after the program has ended. One school started the programme of providing healthy and budget meals for low-income students during recess.

3. Subsidy/Coupons for School Meals

The principals, canteen operators and convenience shop operators agreed that subsidising healthy meals encouraged healthy eating in schools. The canteen operators and school administrators thought that prepaying for meals might incentivise them to prepare healthy food for students as this strategy would reduce food wastage and lead to profit. Students in Intervention-2 reported that they used the coupon provided to buy vegetables, fruits and low-energy dense kuih at the canteen. As mentioned above, some students noticed that they had continued eating vegetables and fruits even after the programme ended. However, two school administrators complained that the students sometimes forgot to bring the coupon to claim their food subsidy.

4. Food preference/Acceptance among Students

The canteen operators in Intervention-2 noticed that the students have their own preferences when it comes to vegetables and fruits. Some vegetables and fruits were popular among students such as baby kailan (kale), guava and watermelon. Some of the female students in Intervention-2 reported not taking the kuih provided as they perceived that the healthy kuih provided is only suitable for adult taste. Most of the intervention group students stated that they would likely buy healthier options if these were available in the canteen, as they think healthy food is good for their body and health. Students from the control group said that they would likely buy healthy foods from the canteen, provided they are cheap and tasty. However, canteen operators and school administrators in both Intervention 1 and 2 both thought that students preferred unhealthy options compared to healthier ones and will not spend money on foods they do not like.

5. Barriers to Implementing the Intervention in the School Canteens

Most of the students thought that the taste and high price of healthy foods were barriers to healthy eating in school. They thought that healthy foods should taste sour, with no added salt (tasteless), which they did not like. Healthy foods were perceived as expensive, and not all students will buy. Meanwhile, the canteen operators thought that students already have their eating habits and preferences that would not be easy to change. The canteen operators in both Intervention-1 and Intervention-2 were familiar with the healthy canteen guidelines as it was similar to the guidelines from the Ministry. However, they found it hard to comply due to cost and profit, especially perishable items such as vegetables and fruits. Besides, they noticed students like to buy energy-dense foods, which are more profitable for their sales. They suggested that healthy eating intervention should start earlier at home and primary school level to make it easier to change and adapt to healthy foods. The canteen operators also identified that lack of manpower in preparing healthy meals might become an obstacle in implementing healthy canteen.

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