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Implications for health and social care practitioners

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**Adolescents from low-income families in Hong Kong and unhealthy eating behaviours:
Implications for health and social care practitioners**

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Abstract

The development of dietary preferences of adolescents involves a complex interplay of individual behaviours and environmental factors. Interpersonal factors – such as peer influences and unpleasant school experiences, and institutional factors – such as school rules and policies – are closely associated with unhealthy eating of adolescents. Family support and guidance are also crucial in influencing adolescents' eating habits. However, the low social status, low educational levels, and low household incomes of disadvantaged parents can markedly prevent their children from establishing healthy eating habits. Therefore, adolescents from low-income families are more likely to engage in unhealthy dietary behaviours and hence to be more susceptible to diet-related health problems. However, few studies have addressed the difficulties associated with inculcating healthy eating habits among adolescents from low-income families. Therefore, to investigate the barriers to adopting healthy eating habits, this study adopted a qualitative research approach and conducted 5 focus-group semistructured interviews with 30 junior- and senior-form students of a secondary school in Hong Kong, all of whom were from low-income families. The results revealed skipping meals because of poverty, following irregular meal patterns on school holidays, receiving poor guidance from family and peers, perceiving healthy eating as expensive and unappealing, and geographical inaccessibility to healthy food all prevented these students from healthy eating. These mutually reinforcing factors were interlocking with the economic strain that was experienced by the participants and their families. In particular, the stereotype of 'healthful food is expensive' was strong. Therefore, we suggest students from low-

income families should be enabled to understand that healthy eating is not necessarily expensive. The participants' stereotypes about healthy food was handed down by their parents. Such stereotypes, together with the low health literacy, influence the food preparation habits of the parents. Therefore, parents should be made to aware that healthful food can also be affordable.

Keywords: Healthy eating, barriers, low-income families, secondary school students, Hong Kong

What is known about this topic

- Environmental, interpersonal, and familial factors affect adolescents' food choices.
- School environment influences adolescents' eating behaviour.
- Unhealthy eating is correlated with low socioeconomic status.

What this paper adds

- Although some participants were well aware of the theory of healthy eating, given the financial status of their families, the costs of eating remarkably affected their food choices.
- The participants and their peers, who were also from low-income families, mutually reinforced one another's food choices, which internalized in them price as a primary consideration in food selection.
- The parents of the participants perceived healthful eating as expensive, a stereotype that they passed on to the participants.

Introduction

Unhealthy dietary practices and poor diet quality are major public health concerns because they can induce cardiovascular and endocrinal diseases (Traill et al., 2012) and eating disorders (Quiles-Marcos, 2011). Individuals who engage in healthy eating habits during childhood are more likely to sustain these habits in adulthood (Lee et al., 2010), which reduces the likelihood of diet-related health problems; therefore, establishing healthy eating habits during childhood is crucial. The development of dietary preferences of adolescents involves a complex interplay of individual behaviours and environmental factors (Schembre et al., 2011). Furthermore, interpersonal factors – such as peer influences (Chan et al., 2009a, 2009b) and unpleasant school experiences (Farrow & Fox, 2011), and institutional factors – such as school rules and policies (Lee et al., 2010; Townsend & Foster, 2013) – are closely associated with unhealthy eating of adolescents. Adolescents can practice and sustain healthy eating habits more easily with the support from schools (Lee, 2009; Pittman et al., 2011).

Family support and guidance are crucial in assisting adolescents to cultivate healthy eating habits (Al-Shookri et al., 2011; Rhoades et al., 2011). Parents who prefer healthy eating behaviours and healthy foods themselves promote wholesome eating habits in their school-aged children. Appropriate support from school teachers can also empower families to practise healthful behaviours (Wilfley et al., 2011).

However, the low social status, low educational levels, and low household incomes of disadvantaged parents can markedly prevent their children from establishing healthy eating habits (De Vries et al., 1990; Laitinen et al., 1995). Notably, unhealthy eating has been correlated with low socioeconomic status (Contoyannis & Jones, 2004; Lynch et al., 1997; Prättälä et al., 1992), and people from low social and income classes often have poorer health outcomes and are

more susceptible to obesity and other diet-related health problems (Cockerham, 2013; Contoyannis & Jones, 2004; Lynch et al., 1997), partly because their low educational levels contribute to their low health literacy and partly because their low incomes make healthy food less accessible (Cockerham, 2013). Therefore, adolescents from low-income families are more likely to engage in unhealthy dietary behaviours and hence to be more susceptible to diet-related health problems.

Despite these public health concerns, few studies have investigated the difficulties of inculcating healthy eating habits in adolescents from low-income families. Therefore, this study investigated the barriers to the adoption of healthy eating habits among secondary school students from low-income families in Hong Kong.

Methods

To comprehensively examine the barriers to healthy eating among adolescents from low-income families, this study adopted a qualitative research approach and conducted 5 focus-group semistructured interviews with 30 students of a secondary school in Hong Kong.

Field site

The field site was a subsidised coeducational secondary school offering classes from secondary 1 to secondary 6 (equivalent to grade 7 to grade 12 in the United States) in Sham Shui Po, a low-income district; this district has a poverty rate of 26.6%, and 19.5% of the households receive monetary assistance from the government's Comprehensive Social Security Assistance (CSSA) Scheme (Census and Statistics Department, 2015). Approximately 42.6% of the residents are part of the active labour force, among the lowest in Hong Kong. The median monthly income per household in this district is HK\$7,200 (equivalent to US\$923), again among the lowest in Hong Kong (Census and Statistics Department, 2011, 2015).

The students attending the investigated school mostly resided in subsidised public housing near the school. Per data from the Student Health Service of the Department of Health, the most common diet-related problems among these students are a lower-than-normal body mass index (BMI) and skipping breakfast. Moreover, fainting during morning assemblies was not uncommon, particularly among female students.

Participants

All participants—15 male and 15 female students—were students of the subsidised coeducational secondary school. At the time of the study, 12 students were from secondary 1, and 18 were from secondary 4. All participants resided in subsidised public housing, and the families of all participants were receiving welfare assistance under the CSSA scheme.

Data collection

Data were collected using a qualitative approach through 5 focus-group semistructured interviews, as recommended in the literature to achieve data saturation (Liamputtong & Ezzy, 2005). From the field site, 30 students were sampled through purposive sampling with the following criteria: (a) students either from junior secondary (secondary 1–3) or senior secondary classes (secondary 4–6), (b) even gender distribution, (c) students did not bring a lunch box prepared by their parents, and (d) from CSSA-assisted families. The sampling was assisted by the teachers, who nominated students.

Before the interviews, an interview question guide (see Appendix 1) was developed based on the literature (Chan et al., 2009a, 2009b; Lee et al., 2010; Townsend & Foster, 2013; Yung et al., 2010). This guide was used throughout the interviews to ensure that the interviews focused on the research questions, thus avoiding sidetracked discussions. The interview questions were open-ended and were aimed at understanding the eating habits of the students,

identifying the persons who strongly influenced their eating, and documenting the perceived difficulties and barriers they encountered.

To ensure consistency, all the interviews were conducted by the first author. Because focus-group interviews utilise group interaction to produce data (Liamputtong & Ezzy, 2005), the order of questions in the interview was modified according to the discussion flow. To facilitate discussion, the focus groups were formed on the basis of the form (junior form and senior form), which ensured that the participants in each group shared similar educational backgrounds. Follow-up questions were asked to spur further discussion from the participants.

The first set of 2 focus-group interviews, with 6 senior secondary students and 6 junior secondary students, were conducted in March 2015. The second set of 3 focus-group interviews, with 12 senior secondary students and 6 junior secondary students, were conducted in October 2015. Each focus group comprised 3 female and 3 male students. The interviews, conducted in a student activity room of the school, lasted 1–1.5 hours and were audiotaped with the participants' consent. To compensate for their time, each participant was given an energy cereal bar as a healthy snack after the interviews.

Data analysis

The focus-group interviews were transcribed verbatim, and 2 participants of each focus group were asked to conduct member checks for accuracy. Data analysis was iterative and inductive, and thematic content analysis was adopted. Data saturation was achieved. Interview transcripts were analysed line by line through an inductive coding process, allowing the identification of participants' thinking and behavioural patterns (Liamputtong & Ezzy, 2005). The raw text of the interviews was read thoroughly for content familiarisation and then re-read for discovering the themes within (Thomas, 2006). The transcripts were segmented into smaller

meaning units, the segments were labelled and collapsed into categories; the upper level categories were identified based on the research questions, and in vivo coding was conducted (Thomas, 2006). Recurrent categories were highlighted, and the overlapping codes and categories were reduced and grouped together to form bigger themes through repeated examination and comparison (Thomas, 2006). The codes, categories, and themes derived from the data along with the supporting interview quotes were documented in a coding table (Green & Thorogood, 2004). The first author and the first co-author with qualitative research experience independently coded and analysed the interviews. The authors held frequent meetings to discuss the coded and analysed data. Consensus about the codes, categories, and themes was reached.

Ethics consideration

This study obtained research ethics approval from the Committee on the Use of Human and Animal Subjects in Teaching and Research at Hong Kong Baptist University. Before the interviews, the participants and the parents or guardians were informed about the study, and written consent was obtained from all of them. To protect participants' privacy, no personal identifiers were mentioned or recorded during the interviews. Interviews were digitally audio-recorded with the participants' consent, and the recordings were destroyed after the interviews were transcribed and verified through member checking.

Findings

Different barriers, all of which were associated with the economic strain experienced by the participants, interacted to prevent the participants from cultivating healthy eating habits.

Meal skipping because of poverty

Skipping meals, particularly breakfast, was common and was reported by all participants, with a perceived lack of time and being in a rush cited as the primary reasons. However, poverty

experienced by the participants was fundamentally interlocked to the rush and the consequent meal skipping:

Senior D_3: I always wake up late, so I have to rush to school and have no time for breakfast. Although I can buy some snacks at recess, I will just wait until lunch time to have my first meal, because this can save money.

Senior B_3: Yes, I prefer sleeping longer. I do not have money to buy breakfast anyway. My parents only give me little pocket money, but the amount is just barely enough for lunch. If I spend more, I will not be able to buy lunch.

Irregular meal patterns on school holidays

Although the busy school schedule justified for meal skipping on school days, skipping breakfast was even more common during school holidays. The financial constraints experienced by the participants had normalized their irregular dining schedules and thus their meal skipping:

Senior C_5: I do not have breakfast on holidays, and my first meal is around 1 [pm], because I want to sleep more. Sleeping more means spending less for food.

Senior D_5: I can save more money on school holidays because I spend most of the day sleeping. When I am asleep, I do not feel hungry, and I only need to buy one meal for the whole day.

Peer influence

Peer influence was a crucial factor that remarkably influenced the food choices of all participants when they were having meals with their peers. The participants practiced different food choices when they ate with their parents and when they ate with their friends. One participant stated that he tended to eat more junk food when eating with friends:

Senior A_3: I have more junk food, such as potato chips, when eating with friends than [when eating with family]. At home, my mother does not allow me to eat potato chips. However, I can eat as many potato chips as I want if I am outside [with friends].

Senior E_3: I always have potato chips as my lunch with my classmates, because potato chips are cheap and cost only a few dollars. My classmates and I have to save money, so we are good lunchtime companions.

Peer influence in food choices was particularly prevalent among junior-form participants. From their perspective, to have autonomy in choosing food was a new experience. Simultaneously, they were under marked parental influence because of their young age and their families' financial strain. Thus, while having lunch with classmates, the junior-form participants in particular struggled to choose between cheaper homemade meals and the more expensive restaurant meals:

Junior F_2: My mother always asks me to eat at home because she says eating at home is a lot cheaper than eating outside. However, I prefer eating out with my classmates. The home meals are dull and boring, mostly fish, eggs, and rice. However, the food at restaurants is much more appealing and tasty; thus, I prefer eating out with my classmates.

Junior B_2: My mother says I have to go back home for lunches because she worries if I know how to choose cheap meals outside. I feel bad, especially when I see other classmates going out for lunches. However, I accept this because I know my parents work very hard to earn a living.

The role of peers was not restricted to the choice between home meals and outside food, as the participants experienced peer pressure regarding food selection itself. Because the peers themselves were from low-income families, the constant selection of low-cost food by the peers had internalized in the participants the idea that low price is more important than nutritional value. The participants conformed to the food preferences of their peers, although these preferences were sometimes different from theirs:

Junior D_1: My classmates love eating at McDonald's because it is the cheapest restaurant.

Although I do not like McDonald's, I usually follow their choice because [the food of] McDonald's is really cheap, and I am the only one who does not like McDonald's, so it is hard for me not to follow.

Junior A_1: Same as me! My classmates only eat cheap fast food because they must save money. Sometimes I feel bored with these fast-food choices. However, I still choose to eat with them because we have the same goal of saving money. I cannot eat with the rich classmates, because their meals are not for me.

Family influence

The eating habits of the family members, especially those of parents who were responsible for preparing daily meals, influenced the eating behaviours of the participants. Not all families prepared healthy dishes. Eating healthful foods can be highly challenging for those participants whose parents are forced to prepare unhealthy food due to financial strain. Most participants could not refuse the food prepared by their parents, although they knew the food was unhealthful:

Senior F_4: I have no choice. When I am eating with my father, he usually cooks very oily meals with lots of sugar. My father likes fatty pork, because he says fatty pork is

cheap yet delicious. He makes these oily dishes every day. Although I hate eating them, I have to accept it because my family needs to save money.

Senior C_4: Me as well! My parents say healthy food is very expensive, and fatty meat is much cheaper than lean meat. My mother says using fatty pork to cook can save oil because pork oil is released while cooking.

Senior D_4: My mother only cooks rice and preserved vegetables. She says fresh vegetables and meat are too expensive. I have forgotten the taste of fresh vegetables and meat...

Although the parents of some participants prepared unhealthy food, almost all participants associated eating at home with a healthy diet and eating out with an unhealthy diet. However, this perception was not necessarily valid for the participants. The parents of some participants might incorrectly estimate the nutritional requirements of the family members and unintentionally prepare an imbalanced diet. In particular, the participants' parents often prepared inadequate quantities of vegetables:

Junior B_1: My mother does not prepare enough vegetables for dinner. My younger brother and elder sister love vegetables so much, and they will rush for all the vegetable dishes. I can hardly have any vegetables and am forced to have meat. My mother often says that the amount of vegetables that she prepares is adequate and that I eat too slowly.

Junior C_1: My mother only buys half kilogram of vegetables each day because she says vegetables are expensive. However, my parents usually eat most of the vegetables and leave all the meat to me. They say I need more meat for growth.

Healthy meals perceived as expensive

All participants perceived money as the chief barrier to having healthy restaurant food, because they held the stereotype of healthy food being expensive. To these participants, the positive relationship between healthy foods and expensive meals was undeniable:

Senior C_5: I know EatSmart Restaurants provide meals following the 3+2+1 rule [3 portions of carbohydrates, 2 portions of vegetables, 1 portion of meat]. However, these healthy restaurants are much more expensive than regular restaurants. Healthy food is always expensive so it is not for me.

Senior A_5: Yes, healthy food is always more expensive than ordinary food, similar to how the organic food stuffs in a supermarket are usually at least twice as expensive as ordinary food. Healthy food is for rich people, and I and my family cannot afford it.

Nonetheless, the participants had a consumer mindset (i.e., they evaluated whether the food was worth its price); this consumer logic was as an underlying factor in the unhealthy diets of the participants. Notably, most male participants preferred having meat dishes because they perceived meat as more valuable than vegetables. Moreover, most participants overlooked vegetables and perceived it as being provided free of charge in restaurant meals because, in their experience, vegetables were often served as a side dish along with the main dishes. Hence, they were not motivated to pay more to receive additional portions of vegetables:

Junior E_2: When you are eating out, the vegetables are already provided to you with the dishes. Even though you order a pork chop with rice in a fast-food restaurant, you can still get some vegetables as a side dish without additional charges. Therefore, I have never thought of paying more for vegetables. After all, I will not eat these

vegetables, because they look very unappealing, dry, and not fresh. The vegetables look like rubbish; they look worthless. Meat gives you more bang for your buck.

Junior D_2: I do not have much opportunity to eat outside because eating out is expensive. Therefore, when I eat out, I always order meat dishes because for me, eating meat is like a celebration. I will not order vegetables because it is not worth the costs of eating out.

Relatively healthy meals at home provided most participants a justification for not paying more for healthier restaurant meals. They had to consume healthier dinners at home under parental influence; therefore, they were more motivated to select food according to their personal preferences at lunch time, when they could exercise their autonomy in food choices without health considerations. Consequently, for most participants, dinners at home became a compensation for their lack of vegetable intake during other meals; thus, they were demotivated to have healthy but expensive restaurant meals. As consumers, most participants considered price and taste as the key factors when making food choices, whereas health was given a low priority:

Junior A_1: It is unnecessary to order vegetables when eating out, because I can eat them at home. Of course, as I can choose what I want to eat for lunch, I do not see any reason to pay a premium for healthier meals that I dislike.

Junior C_1: I do not like vegetables, so why should I torture myself when eating out? My parents cook only vegetables at home, so I always order meat dishes when eating out. I love meat, and meat dishes are usually much cheaper than healthy meals.

Healthy meals perceived as unappealing

Personal food preferences were a barrier for most participants in achieving healthy eating. In many cases, personal food preferences were closely associated with the consumer mindset, which was in turn correlated with their financial situation:

Senior E_4: When eating in restaurants, I prioritise taste, attractiveness, and price much over following the 3+2+1 rule. I will not pay and torture myself by eating the food that I dislike. If I eat according to the rule [of 3+2+1], I will not be able to have any good food.

Senior F_4: I can rarely eat out because eating out is more expensive. Therefore, whenever I can eat out, I only focus on taste rather than the nutritional quality of the food.

The participants perceived an undeniable relationship between healthy eating and unappealing:

Senior C_3: Vegetables... I can only think of the boiled vegetables that my mother cooks. The vegetables are either steamed or boiled. [There is] No oil, no salt, no fat, no taste. They are hard to swallow. Healthy food always tastes awful, looks awful; they look dry and tasteless. If I eat outside, I would rather spend on tasty food so that the money is well spent.

Senior F_3: I can rarely go out to eat because I do not have much money. Therefore, I only want to spend on the food that I really like. I do not want to spend on having healthy food, because healthy food is not tasty.

Inaccessibility of healthy food

The limited food options around the participants' school were commonly mentioned by the participants as another barrier to eating healthy meals:

Senior C_5: Some restaurants in this district provide healthy meals. However, they are far away from the school and is located at an “upper-class” place. Those restaurants around the school mainly provide very oily dishes.

Senior F_5: The restaurants around the school are usually cheap. Even if a restaurant that serves healthy food opens here in future, I do not think it can survive, because most people in this location are “the grassroots,” and just like us, they do not mind having unhealthy but cheap food.

Furthermore, the school failed to provide healthy food to the participants:

Senior B_4: The tuck shop [of the school] only offers unhealthy food, such as chocolate, candies, potato chips, and fish balls. There is no healthy food in the shop, and we are forced to eat these kinds of unhealthy food.

Senior A_4: Even if there is healthy food in the tuck shop, won't it be very expensive?

Discussion and implications

All participants were from low-income families that claimed government welfare assistance. Their unhealthy eating habits were correlated with their families' economic strain, forcing them to use price as the primary factor in food selection. Most participants were aware of what makes a meal healthy. However, the economic hardships that the participants and their families were experiencing prevented them from healthy eating. Inequality in access to healthy food—which originates from social and financial inequality—can lead to health inequality, as evidenced by the lower-than-normal BMI of the participants.

Most participants who skipped breakfast argued that they preferred to sleep longer in lieu of the time to eat breakfast, which is consistent with international research (Neumark-Sztainer et al., 1999). Time constraints indeed have been shown to influence the food preferences of

adolescents (French et al., 1999; Neumark-Sztainer et al., 1999) and have been frequently reported as a barrier to healthy eating (Holgado et al., 2000; Lappalainen et al., 1997). However, skipping meals was fundamentally related to the participants' economic strain, which motivated them to skip meals in order to save money.

The price and accessibility of healthy food options have been reported to influence people's food preferences (Carrillo et al., 2011; Holgado et al., 2000; Horacek & Betts, 1998; Lappalainen et al., 1997; Neumark-Sztainer et al., 1999), which agrees with the findings of the present study that high price and geographical inaccessibility of healthy food are barriers frequently encountered by the participants. Although some participants were aware of what healthy eating was, they could not practice it because of the economic strain. Healthy food was stereotyped as an expensive luxury and hence was perceived as not for their social class according to the participants.

Because of the financial strain, the financial mindset of 'being a consumer' was remarkable among the participants and was a prevalent barrier to eating healthy meals in restaurants. The participants commonly perceived meat as more valuable than vegetables, motivating them to order meat rather than vegetables in restaurant. Consistent with past studies (Chan & Tsang, 2011; Croll et al., 2001), most participants held the stereotype of vegetables and healthy food being tasteless and dull; in addition to their belief that eating vegetables at family meals could compensate for the less-healthy meals consumed elsewhere, this further deterred them from ordering healthy meals in restaurants. Furthermore, eating out had important symbolic meanings for the participants because it afforded them an opportunity to consume foods different from home food (or prohibited by parents); consequently, when eating out, which was a rare activity, they ordered according to their sensory preferences as consumers rather than their health

preferences. The appeal of food is frequently perceived as the primary factor influencing adolescents' food choices (Neumark-Sztainer et al., 1999), and this consumer mindset is not rare in international literature, in which sensory appeal, price, and convenience ranked much higher than health in making food choices (Carrillo et al., 2011).

As the participants started to gain more autonomy in secondary school, they were markedly influenced by their peers when making food choices. Peer groups strongly influence adolescent activities (Hopkins, 1994), which can affect the efforts made to pursue healthy eating. The food choices of participants conveyed important symbolic meanings. Consuming junk foods was associated with independence, pleasure, and being with friends, whereas consuming healthy foods was associated with parents and being at home (Chapman & Maclean, 1993). Teens desire autonomy and independence, a dislike for food served at family meals, and adolescent activities for socialising with friends were frequently cited as the reasons affecting adolescents' eating patterns (Neumark-Sztainer et al., 2000). Notably, adolescents in Hong Kong have been reported to be more prone to unhealthy eating during social gatherings (Chan et al., 2009a, 2009b). Thus, healthy eating was inevitably difficult for the participants, because junk food and eating out carried symbolic meanings to the participants, who desired more independence and recognition and acceptance from their peers. In addition, as the participants' peers were also from low-income families, the shared similar economic concerns during food selection mutually reinforced and internalized price as the primary consideration in food selection. Personal identities and social groups are formed via food consumption (Meigs, 1997). Therefore, the shared consumption of low-cost food constructed a sense of belongingness to the same social class; this explains why the participants conformed to the food preferences of their peers although they did not necessarily share those preferences.

Social care practitioners should be aware of the origin of social inequality when promoting healthy eating to the adolescents who are coming from low socioeconomic class. On one hand, social care policy makers can explore possibilities in implementing the social policies that can alleviate the social inequality in accessing healthy food of these adolescents, such as providing food subsidies. Besides, they are advised to make use of the school environment and adolescent peer culture to promote healthy eating to these adolescents. Social care practitioners can collaborate with school teachers in enabling students from low-income families to understand that healthy eating is not necessarily an extravagant luxury; for example, they can work with schools in ensuring the provision of affordable healthful food in campuses. School teachers should also serve as role models for the students by practicing healthy eating themselves (CDC, 2017c), which can create a healthy culture for the adolescents. This suggestion is in line with the mission of the Centers for Disease Control and Prevention's (CDC) Healthy Schools Initiative: "a healthy school nutrition environment provides students with nutritious and appealing foods and beverages, consistent and accurate messages about good nutrition, and ways to learn about and practice healthy eating" (CDC, 2017a). The recommendations of the CDC about providing free or reduced-price healthy meals to students facing economic strain can serve as a reference for schools serving students from low-income families (CDC, 2017b). Such school-wide education not only can empower the students with higher self-efficacy to pursue healthy eating, but students can also mutually influence on each other to pursue healthy eating by utilizing the peer influence.

Family—as a socialising agency on food attitudes, preferences, and values—is a major influence on the lifetime eating habits of adolescents (Story et al., 2002). Although studies (Gillman et al., 2009; Neumark-Sztainer et al., 2003) have reported that family meals are

associated with improved dietary intake (i.e., more fruits, vegetables, and high-fibre food, with less saturated fats and trans fats), the relationship between family meals and healthy food was not evident in our study. As reported by the participants, the nutritional quality of family meals greatly depended on their parents' food preferences, cooking styles, and financial strain. Although the participants were aware that the meals prepared by their parents were unhealthy, they rarely voiced their concerns or advocated for changes because the participants wished to help their parents reduce the family expenditure. On the other hand, because of the financial strain, the parents of some participants did not respond to requests for preparing more healthy food. Even family meals were prepared in a healthy manner, forced dietary imbalances and forced unhealthy eating existed among some participants because of the parents' incorrect estimations of healthy food proportions. Moreover, low-income families tend to have low health literacy (Berens et al., 2016), meaning that parents in such families find it difficult to access and understand healthy eating and nutritional knowledge. Whether the participants could achieve healthy eating, thus, depended much on their families, particularly parents, because the parents were the decision makers for their children's food choices. Family members and parents are role models for adolescents in developing healthy eating habits (Story et al., 2002); however, in this study, family members and parents contributed to the unhealthy eating habits of the participants because of their financial strain. Most parents held to the stereotype of healthful eating being a luxury, which they passed on to their children.

Health care practitioners, thus, need to be aware of the crucial role of parents in their healthy eating promotion campaigns to the adolescents. Being aware of the financial hardships of the low-income families, it is important to conduct financially-sensitive healthy eating promotion campaigns not only to the adolescents, but more importantly, to the parents of these families as

well. The participants' stereotypes about healthy food as expensive and extravagant was handed down by their parents. Such stereotypes, together with the parents' low health literacy, influence the food preparation habits of the parents. Therefore, targeting on the adolescents' and their parents' common stereotype of healthy food as expensive, health promotion practitioners can collaborate with school teachers in educating the parents that healthful food can also be easily affordable. Besides, health promotion practitioners should consider collaborating with schools in providing healthy eating education to parents in order to enhance their health literacy.

Conclusion

The reasons for the participants' failure in achieving healthy eating were complicated and mutually reinforcing, and were interlocking with their economic strain. These factors resulted in the participants giving health the lowest priority when making food choices. Social inequality, thus, results in health inequality. Health and social care practitioners should therefore collaborate with school teachers to help adolescents from low-income families overcoming the barriers to pursuing healthy dietary behaviours.

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