

Editorial

Overweight and obesity are important risk factors affecting health.

Many people like a chubby child. They would be happy if they saw a child enjoy their food. In general, parents thought that children should eat more nutritional food to help them grow and sometimes let them take too much food. Since children are more prone to have health problems arising from overweight and obesity, Student Health Service has provided a 'Regular Exercise Class' programme. Overweight and obese primary 4 to 6 students are invited to join the class. We hope that students would know more about the problems of overweight and learn ways to maintain a healthy body weight. Besides, we would teach them exercise by demonstration and practice. We also encourage them to do the exercise at home and therefore enable them to maintain a healthy body weight.

In this issue, we would like to share this exercise programme with you.



Editorial Board Members:

Dr. HO Chun-luen, David, Ms. LAI Chiu-wah, Phronsie, Ms. CHAN Shuk-yi, Karindi,
Ms. CHOI Choi-fung, Ms. CHAN Kin-pui

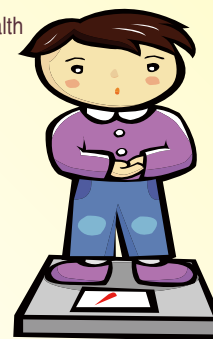
Tel : 2349 4212 / 3163 4600 Fax : 2348 3968

Website : <http://www.studenthealth.gov.hk>

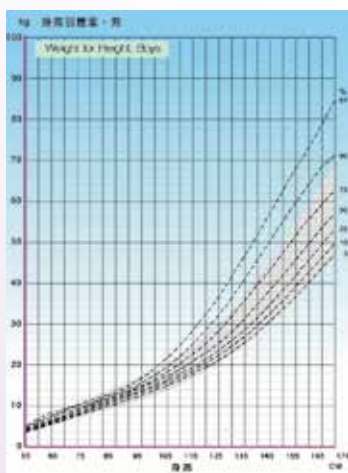
Childhood overweight and obesity

Dr Lee Suk-man
Student Health Service, Department of Health

"Jingle bells, jingle bells, jingle all the way!" Merry Christmas and Happy New Year! We are all anticipating the long holiday and parties. Are you aware that another bell is ringing too? The childhood overweight and obesity alarm is ringing all over the world. Therefore, prevention of childhood obesity is a high priority.



What is Childhood overweight and obesity?



(Hong Kong Growth Survey 1993)

Overweight and obesity are defined as "abnormal or excessive fat accumulation that presents a risk to health".

We use the sex-specific reference charts of weight-for-height to assess the weight of children and adolescents. Childhood obesity is defined as weight greater than median weight for height \times 120%. For example, if the height of a boy is 145cm, the corresponding median weight-for-height is 36kg. If his weight is greater than 43kg (36kg \times 120%), then he is defined as obese. For boys taller than 175cm, girls taller than 165cm and students more than 18 years old, we assess their weight by the Body Mass Index (BMI). BMI is calculated as body weight (kg) / height²(m²). BMI equal to or greater than 23 is defined as overweight whereas BMI equal to or greater than 25 is defined as obesity.

Severity and trends

World Health Organization points out that childhood obesity is one of the most serious public health challenges of the 21st century. The prevalence has increased at an alarming rate. According to the statistics of the Student Health Service, the prevalence of overweight including obesity among primary school students rose from 16.4% in 1997/1998 school year to 21.4% in 2010/2011 school year. Similarly, the prevalence of overweight including obesity among secondary school students rose from 13.6% to 18.7% in the same period. Overall, the prevalence of obesity among local primary and secondary school students rose from 15.7% in 1997/1998 to 20.3% in 2010/2011. The problem was more serious in primary school student than in secondary student. The prevalence remained higher among boys with the difference between boys and girls widening slightly over the years.

Causes

The fundamental cause of overweight and obesity is an energy imbalance between calories consumed and calories expended.

1. Increased calorie intake

As our society has become more westernised, our eating habit has changed dramatically. Fast food and convenience food are getting more popular especially among the youngsters. Some of them consume more fatty and sugary food. Some students have binge eating or emotional problems resulting in bulimia or other abnormal eating patterns.

2. Decreased energy expenditure, lack of exercise

A local study showed that nearly half of the students are lack of physical activity. Students have heavy homework and some will use their leisure time for study. Some of them have sedentary lifestyle e.g. watching TV, playing TV games or computer games.

3. Others

Obesity tends to run in families. While genes influence weight, members of the same family also share the same diet and similar lifestyle which also contribute to obesity. Certain diseases or drugs can cause obesity.

Consequence

Overweight and obesity will affect the physical and psychosocial health of the children.

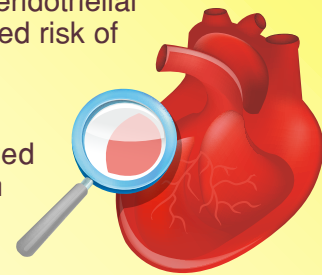
Physical

Studies have shown a tendency for obese children to remain obese in adulthood. Childhood obesity is also associated with increased risk factors for and early development of cardiovascular, endocrine, musculoskeletal, respiratory and digestive system diseases.

1. Cardiovascular diseases

Coronary heart disease

Heart disease is the number two killer in Hong Kong. Various studies have shown that childhood obesity is associated with increased risk factors for cardiovascular disease such as raised blood pressure and dyslipidaemia. Local study from CUHK has showed that childhood obesity is associated with arterial endothelial dysfunction and obese children would have 3 to 4-fold increased risk of developing coronary heart disease in adulthood.



Hypertension

Primary hypertension in children was previously considered rare, but it has become increasingly common in association with obesity. Obese children have about a 3-fold risk for hypertension than non-obese children. Overweight adolescents have more than an 8-fold risk of developing hypertension as adults.

2. Endocrine problem

Diabetes Mellitus

Obesity is a recognised risk factor for the development of Type II Diabetes Mellitus. Poor control of Diabetes Mellitus will lead to multiple organ complications such as cardiovascular disease, stroke, retinopathy and renal problem etc. Childhood obesity is associated with early development of type II Diabetes Mellitus. It is clear that the increasing prevalence of Type II Diabetes Mellitus in children and adolescents observed in many parts of the world is attributed to the parallel increase of childhood obesity prevalence.



Local data has shown that the incidence of Type II Diabetes Mellitus in children aged <19 years increased from 0.2/100,000 person-year in 1997 to 2.62/100,000 person-year in 2007.

Menstrual problem

Oligomenorrhoea and ammenorrhoea are also associated with obesity, as obese adolescent girls frequently develop polycystic ovarian syndrome and hyperandrogenism, driven by insulin resistance resulting from fat deposition.

3. Musculoskeletal problem

Childhood obesity can lead to musculoskeletal complications such as low back pain, knee pain or osteoarthritis due to excessive weight bearing upon joints. The most serious conditions include slipped capital femoral epiphyses in which the hip joint is forced out of the alignment, and bone growth deformities.

4. Obstructive sleep apnea (OSA)

Obstructive sleep apnea is another important complication of childhood obesity. There are various causes of OSA. Obesity is the main cause in



which fat tissue round the neck narrows the airway. Children suffering from OSA have loud habitual snoring, difficulty in breathing when asleep, witnessed breathing pauses, restless sleep and some of them may have enuresis or sleepwalking. Poor sleep quality may lead to daytime sleepiness, poor attention span and academic problem. If left untreated, complications such as hypertension and growth failure may result. Local study shows that 26% of obese children had OSA compared to 2.3% of normal children. This means obese children have 10 times higher risk of OSA than normal.

5. Digestive system

Fatty liver disease in children, also known as non-alcoholic steato-hepatitis, is a buildup of fat within the liver that can cause inflammation and scarring. This inflammation and scarring can prevent the liver from functioning as it should and may eventually lead to liver failure. Local study shows that about 70% of obese children have fatty liver. On the other hand, obese children are more likely to develop gallstone and gastro-esophageal reflux and hernia.

Social

Childhood obesity commonly leads to discrimination and stigmatization. They have poor exercise tolerance and have no enthusiasm in school activities or sports programmes which affect their social life. They may be teased or rejected by classmates or friends.

Psychological

Childhood obesity has significant impact on the emotional development of the child or adolescent. Obese children or adolescents are more likely to have poor body image, low self-esteem and low confidence. Overweight adolescents, particularly girls, tend to develop negative self-image that persists into adulthood. They may lack confidence in one's appearance resulting in a poor self-image.

General recommendations on weight control

Prevention, early detection and correction are crucial to combating the problem.

General recommendations by World Health Organization:

1. increase consumption of fruit and vegetables, as well as legumes, whole grains and nuts;
2. limit energy intake from total fats and shift fat consumption away from saturated fats to unsaturated fats;
3. limits the intake of sugars; and
4. be physically active, accumulate at least 60 minutes of regular, moderate to vigorous intensity activity each day that is developmentally appropriate.

Conclusion

Childhood overweight and obesity has increased at an alarming rate. Overweight and obese children are likely to stay obese into adulthood and more likely to develop non-communicable diseases at a younger age. These have substantial economic impact on the health care system. Overweight and obesity, as well as their related diseases, are largely preventable. Prevention, early detection and intervention of childhood obesity therefore need high priority. To tackle overweight and obesity, we need cooperation and promotion from various stakeholders. Apart from students and parents, schools' participation and social environment are also important. The Department of Health provides a range of services and actively promotes Healthy Living. Hopefully, the health of our next generation will improve through the hard work of all the parties involved.

Reference

Childhood overweight and obesity, WHO <http://www.who.int/dietphysicalactivity/childhood/zh/>
Student Health Service, Department of Health, Hong Kong <http://www.studenthealth.gov.hk/>
Tackling Obesity- Its causes, the Plight and Preventive Actions, CHP (2005) http://www.chp.gov.hk/files/pdf/grp-pmpdb-obesity_en.pdf
Action Plan to Promote Healthy Diet and Physical Activity Participation in Hong Kong, Department of Health, Hong Kong (May 2010) http://www.dh.gov.hk/english/pub_rec/pub_rec_ar/pdf/ncd_ap/Action%20Plan_Eng_whole%20doc.pdf

Student Health Service centres have been holding "Regular Exercise Class" every year since 2008.

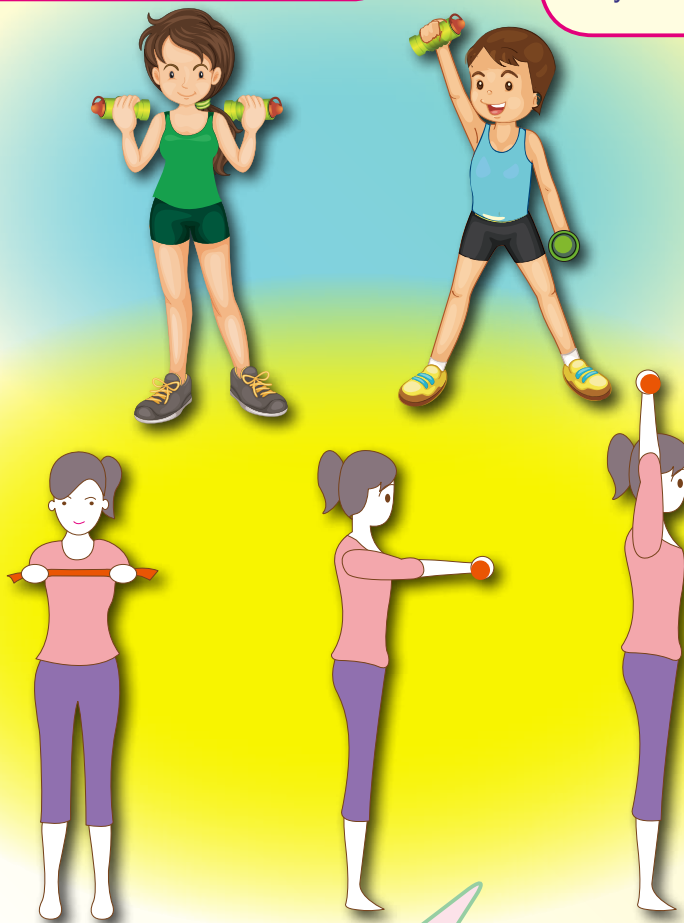
The classes introduced the principle of healthy diet and the importance of exercise to the students. During the class, our nurses and students would perform exercise together. Hopefully, this would raise the students' interest to working out. We have invited 3 nurses responsible for the classes to share their feelings with us.

After doing some warm ups, we can make good use of items from our daily life, such as towels and water bottles. Incorporating simple workouts can already make everyone sweat profusely. In addition to that, interesting 'Aerobics' will increase students' interest in exercising.

It's simple to maintain a workout habit.

- Simple tools, easy movements, determinations!
Students let's do it, keep it up!

The keys to success of the "Regular Exercise Class" are the awareness of health issue of students and parents, the willingness to attend classes and the enthusiasm of their participation. Therefore, the "Regular Exercise Class" is not only a work out class, but also provides bonding among family members.



While doing exercise, we always saw students and parents doing warm ups and towel aerobics enthusiastically. Although some students could not perform the movement correctly because of their fat tummy, they still tried very hard. One of the girl's mother was pregnant but she still helped her daughter to correct her movements.

Every year, students who come to our centre for annual checkup will share their tips on healthy living with us. The following are some of their thoughts and tips. Let's take a look at what they have in mind.

Balanced diet,
exercise regularly,
refrain from
alcohol,
smoking and
drug abuse.



Diet:
more vegetables,
less meat
Exercise:
more movements,
less idleness.



Eat according to the
food pyramid, work out
at least an hour a
day, have a positive
outlook, sleep
adequately.



Reduce
weight will
help to reduce
stress.

Eat more fruits
and vegetables.
Don't eat too
much.

Fit Fit:
More exercise
Eat Eat:
Eat less sugar

Avoid fried / oily
food, eat more
vegetables and less
meat. Drink water
regularly.



Exercise
regularly, choose
food according
to nutrition
labels.

Avoid eating
snacks, eat
more fruits and
vegetables.

I exercise more
and avoid eating
fried food.

Dear Health Station,

I am a primary 5 student. My classmates call me 'Chubby Chubby'.

Last year when I visited the Student Health Service center, the nurse told me that my weight for height is over 90%. How can I reduce my body weight? My mother always asks me not to eat too much but I really enjoy eating. How can I have my favourite food without gaining weight?

Chubby Chubby



Dear Chubby Chubby,

Thank you for your letter.

Your weight for height over 90% means that you are overweight. From your letter, I learned that you love eating so you have to seek advice from dietitian for a healthy diet. Although you are not obese, you should watch your diet and avoid deserts and soft drinks.

'Regular Exercise Class' runs regularly in our Student Health Service centers. The target participants are primary 4 to primary 6 students who wish to keep a healthy body weight. Through the class, we hope students can learn the importance of healthy eating and practise regular exercise. They will establish a healthy life style and practise regular exercise.

It is recommended to exercise for at least an hour everyday. Jogging and skipping are suitable for primary school students.

Wish you good health!

Health Station

Interesting knowledge Q&A



Effective ways for weight control are:

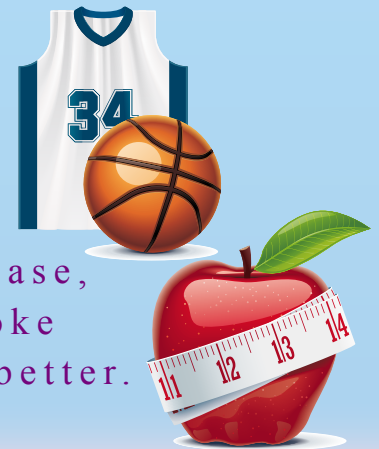
1. to practise at least 60 minutes of moderate to high intensity physical activities everyday
2. to ensure adequate intake of fruit and vegetables, beans, grains and cereals
3. to stay up late
4. to control intake of sugary and fatty foods.

(Answer: find it out from the newsletter)

Health Tips

Advantages of regular physical exercises are:

1. to strengthen the bones and muscles
2. to control the body weight
3. to relax and reduce stress
4. to reduce the risk of heart disease, high blood cholesterol and stroke
5. to feel better, study and work better.



For enquiries of student's health problem, please write to "Health Box"



Please write your name & address, contact tel. no. in the letter.

Health Box
4/F, Lam Tin Polyclinic,
99 Kai Tin Road,
Kwun Tong,
Kowloon

