

2

Diet, physical activity and health: Hong Kong situation

- 2.1 Weight gain is a consequence of the imbalance between energy gained from food or beverages and energy expended in normal body functioning or daily activities. The rising trend of overweight and obesity has largely been attributed to unhealthy dietary habits, wide availability of high fat and sugary foods, lack of physical activity and engagement in sedentary lifestyles. In the following paragraphs, the local prevalence of major NCD risk factors including dietary habit, physical activity and overweight/obesity are reviewed. Furthermore, the local health promotion activities conducted by different government departments and non-governmental organizations (NGOs) are also presented. All these information is essential for identifying the priority areas for action and guiding the interventions on NCD prevention and control in future.

Local situation of dietary habit, physical activity participation and overweight/obesity

Dietary habit

- 2.2 For infant and toddlers, there is growing evidence suggesting that breastfeeding can prevent subsequent childhood overweight and that longer breastfeeding period gives greater protection for children. It was estimated that the percentages of newborns ever breastfed on discharge from hospitals rose from about 10% in 1981 to around 76.9% in 2009. The ever breastfeeding rate increased from 50% for babies born in 1997 to 73.7% for those born in 2008. The exclusive breastfeeding rate for over 4-6 months increased from 6% for babies born in 1997 to 12.7% for those born in 2008. However, for other dietary habits among infant and young children, there is limited information available.

2. Diet, physical activity and health: Hong Kong situation

- 2.3 According to the “Assessment of Dietary Pattern in Primary Schools 2008” conducted by the Central Health Education Unit (CHEU) of the DH in 2008 to assess the dietary habit of P4 and P5 students, there was a definite knowledge-attitude gap where healthy eating is concerned. Students possessed good knowledge of healthier food options did not necessarily synchronise with what they chose in food preference. Only about half had a habit of eating fruit (57.5% ate twice or more per day). Besides, only 9.8% to 25.6% of the students did not consume food items such as drinks with added sugar, deep-fried food, food high in fat/sugar/salt in the week prior to the survey. Furthermore, students showed preference for food items that were usually high in salt, sugar or fat, such as burger and fries, ice-cream and hot dog.
- 2.4 The WHO recommends 400g intakes of fruit and vegetables for adults per day for the prevention of chronic diseases. The BRFS April 2009 of the DH revealed that about four-fifths (79.0%) of people aged 18-64 failed to meet the WHO’s recommendation in 2009. Males (85.3%), young adults aged 18-24 (85.6%) and clerks (84.4%) had the highest prevalence of inadequate fruit and vegetable consumption.
- 2.5 The BRFS April 2007 also revealed that a substantial proportion of local population ate out for breakfast (30.2%), lunch (51.5%) and dinner (10.8%) five or more times a week in 2007. According to the Baseline Survey for the "EatSmart@restaurant.hk" Campaign of the DH in 2007, 84.5% and 53.9% of people aged 12 and above respectively perceived that fruit and vegetable ingredients were too little in food provided by food premises. On the other hand, 60.1%, 40.9% and 27.2% respectively perceived that fat/oil, salt and sugar ingredients were too much in food provided by food premises.

- 2.6 The “Better Health for Better Hong Kong” Campaign was a territory-wide health promotion campaign launched from 2000 to 2006 by the Health InfoWorld of Hospital Authority (HA). Health check-up was also provided to the participants to assess their general health status. From 2000 to 2002, over 4 500 subjects were recruited from two local labour unions to attend the health check-up, and the data were analysed and published in several studies. For dietary habit, over half of the participants had at least one of the six unhealthy dietary habits (no daily fruit intake, no daily vegetable intake, low fluid intake, having irregular meals, frequent sugary drinks and frequent dining out) and around 20% had more than one unhealthy dietary habit. Overall, men had less desirable dietary habit than women.¹
- 2.7 For elderly population, the Population Health Survey (PHS) 2003/2004 showed that 79.5% and 76.5% of people aged 65-74 and aged 75 and above consumed less than five servings of fruit and vegetables per day respectively.

Physical activity participation

- 2.8 The surveys of the Education Bureau (EDB) on students’ physical fitness showed that other than Physical Education lessons, less than half of the students engaged in moderate exercise for at least three times per week with 20 minutes or more per session (i.e. 48.1% for P1-3 and 50.0% for P4-6 in 2003/04; 40.1% for S1-3 and 30.1% for S4-7 in 2004/05; and 40.8% for P1-3 and 42.2% for P4-6 in 2005/06). The 2004/05 study also found that 46.4% of junior secondary and 40.5% of senior secondary students spent over four hours daily watching television, videos, using the computer or playing computer games.
- 2.9 In the Study on the Participation Patterns of Hong Kong People in Physical Activities of the Community Sports Committee (CSC), 61.2% of respondents aged 7-12 (i.e. mostly primary students) and 57.4% of respondents aged 13-19 (mostly secondary students) engaged in three days or more of 30 minutes of moderate to vigorous activity weekly, excluding Physical Education lessons. Although the figures are higher than those in paragraph 2.8, there is much room for improvement.

¹ Ko GT, et al. Associations between dietary habits and risk factors for cardiovascular diseases in a Hong Kong Chinese working population - the “Better Health for Better Hong Kong” (BHBHK) health promotion campaign. *Asia Pacific Journal of Clinical Nutrition* 2007;16:757-65.

2. Diet, physical activity and health: Hong Kong situation

- 2.10 According to the BRFSS in 2009, around 85.9% of people aged 18-64 did not have vigorous physical activity for three days or more per week; about 75.5% did not have moderate physical activity for three days or more per week; around 29.0% did not walk for 10 minutes daily. Overall, about one-fifth (21.0%) were classified as having “low” level of physical activity (based on International Physical Activity Questionnaire classification). Clerks were more common to be classified as having “low” level of physical activity. Furthermore, from PHS 2003/2004 findings, 20.9% of people aged 15 and above sat at least 10 hours daily and people in younger age group (15-34) spent more time on sitting.
- 2.11 According to the Sports Participation Survey 2001 of the Hong Kong Sports Development Board, 48% of people aged 15 and above had participated in at least one sports activity in the past three months. People aged 15-24 (65%) had the highest participation rate, while those aged 55-64 had the lowest (31%).
- 2.12 For elderly population, 8.3% and 16.6% of people aged 65-74 and aged 75 and above respectively did not walk for 10 minutes daily according to PHS 2003/2004. Furthermore, 18.7% and 30.9% of people aged 65-74 and aged 75 and above respectively were classified as having “low” level of physical activity. From the Sports Participation Survey 2001, 49% of people aged 65 and above had participated in at least one sports activity in the past three months.

Overweight/obesity

- 2.13 According to statistics of the Student Health Service (SHS), the prevalence of overweight including obesity (defined as more than 120% median weight for height) among primary school students rose from 16.4% in 1997/1998 school year to 22.2% in 2008/2009 school year. Similarly, the prevalence of overweight including obesity among secondary school students rose from 13.6% to 17.7% in the same period. Overall, the prevalence of overweight including obesity among students rose from 15.7% in 1997/1998 to 20.4% in 2008/2009. The prevalence remained higher among boys with the difference between boys and girls widening slightly over the years. It is clear that the cohort with a higher baseline prevalence of obesity will end up with a higher prevalence of obesity when they leave schools (both primary and secondary).

- 2.14 From 2003 to 2004, the Chinese University of Hong Kong (CUHK) conducted a cross-sectional study to examine the prevalence of overweight/obesity among local students aged 11-18.² The weight and height of around 2 100 students from 14 schools were measured. The study revealed that the prevalence of adolescent overweight/obesity ranged from about 10% to 14% based on different international classification. The problem of overweight/obesity was more common among boys than girls (boys: 14%-20%; girls: 7%-10%).
- 2.15 Another cross-sectional study of CUHK, which examined around 2 600 children aged 6-13, revealed that about 13% of boys and 11% of girls were obese.³ Furthermore, about 10% and 3% of the children were classified as having three or more and four or more of the six cardiovascular risk factors (high systolic blood pressure/diastolic blood pressure, high blood triglyceride, low blood high-density lipoprotein, high blood low-density lipoprotein, high blood glucose and high blood insulin) respectively.
- 2.16 For adult population, the BRFSS revealed that 38.7% of people aged 18-64 were overweight/obese (defined as body mass index greater than 22.9) in 2009. Weight problem was more common among males than females (male: 49.3%; female: 29.7%). People aged 35 or above and blue collar workers had the highest prevalence of overweight/obesity. Overall speaking, the prevalence of overweight/obesity remained stable from 2004 to 2009. However, an increasing trend (46.0% in 2004 to 49.3% in 2009) of overweight/obesity was observed among the male population.
- 2.17 Analysing the data from the “Better Health for Better Hong Kong” Campaign, it was revealed that the age-standardised percentage of overweight/obesity and central obesity among the participating working population were respectively around 60% and 27% in men, and 32% and 27% in women. Compared to the data collected from a local prevalence survey for glucose intolerance and lipid abnormality in 1990⁴, the percentage of central obesity doubled in men (12% to 27%) but remained similar in women.⁵

2 Ko GT, et al. The problem of obesity among adolescents in Hong Kong: a comparison using various diagnostic criteria. *BMC Pediatrics* 2008;8:10.

3 Sung RYT, et al. Waist circumference and body mass index in Chinese children: cutoff values for predicting cardiovascular risk factors. *International Journal of Obesity* 2007;31(3):550-8.

4 Cockram CS, et al. The prevalence of diabetes mellitus and impaired glucose tolerance among Hong Kong Chinese adults of working age. *Diabetes Research and Clinical Practice* 1993;21:67-73.

5 Ko TC, et al. Doubling over ten years of central obesity in Hong Kong Chinese working men. *Chinese Medical Journal* 2007;120(13):1151-4.

2. Diet, physical activity and health: Hong Kong situation

- 2.18 Furthermore, over a quarter of the subjects had more than one cardiovascular risk factor (smoking, being obese, having hypertension, having hypercholesterolaemia, having diabetes mellitus, past history of cardiovascular diseases). Despite this high prevalence of multiple risk factors, most (83%) perceived their health as satisfactory.⁶
- 2.19 For elderly population, the PHS 2003/2004 revealed that the prevalence of overweight/obesity was 49.4% and 41.9% for people aged 65-74 and aged 75 and above respectively.

Local health promotion activities to promote healthy lifestyles

Health promotion programmes by the Department of Health

- 2.20 The DH has committed to safeguarding the health of the community through promotive, preventive, curative and rehabilitative services. The DH promotes healthy living to the general public through various channels. The following paragraphs summarise these activities.
- 2.21 The NCD Division of the DH is responsible for surveillance and control of NCD of public health importance in Hong Kong and formulation of strategies in relation to NCD prevention. Through Behavioural Risk Factor Surveillance System, Public Health Information System and other health surveys, the Division regularly collects, collates, analyses and disseminates surveillance data on NCD and their related risk factors. The information collected is useful for planning, implementing and evaluating health promotion programmes, for development of NCD prevention and control activities, and for risk communication through a monthly publication "NCD Watch".

⁶ Ko GT, et al. Low levels of awareness of suboptimal health conditions in a high-risk working population: the "Better Health for Better Hong Kong" health promotion campaign. *International Journal of Behavioural Medicine* 2007;14:63-9.

- 2.22 The CHEU of the DH promotes the health of the community through collaborating with various agencies in health promotion. To promote healthy eating habit, the CHEU has all along committed to raising public awareness of the importance of healthy eating through various large-scale campaigns such as “2 Plus 3 A Day” Campaign, “EatSmart@school.hk” Campaign and “EatSmart@restaurant.hk” Campaign. The “EatSmart@school.hk” Campaign was launched in 2006-2007 academic year to raise public awareness and concern about healthy diet among children, and create an environment that is conducive to healthy diet in schools and the community. In 2007, the “EatSmart@restaurant.hk” Campaign was also launched to promote healthy eating in restaurants as part of the efforts to address NCD and obesity; also to formulate and implement strategies to empower the public to make and request healthier choices when eating out. For promoting physical activity, the CHEU collaborated with different government departments, non-government organizations and professional bodies to launch various initiatives such as “Healthy Exercise for All Campaign”, “Exercise Prescription Project” and “Stair Climbing to Health”.
- 2.23 Through the Community Liaison Division, the DH establishes close partnerships with District Councils, Healthy City Projects, community groups and the public to organize health promotion programmes and promote population health.
- 2.24 The Family Health Service (FHS), SHS and Elderly Health Service (EHS) of the DH provide a variety of health promotion and disease prevention activities for people in different life stages.

2. Diet, physical activity and health: Hong Kong situation

- 2.25 The FHS provides a comprehensive range of health promotion and disease prevention services for children from birth to 5 years and women below 65 years of age. These services are provided through a network of 31 Maternal and Child Health Centres (MCHCs) and 3 Woman Health Centres. Furthermore, the FHS has been actively involved in promoting, protecting and supporting breastfeeding. Since 2000, a breastfeeding policy has been implemented in the FHS to facilitate a supportive environment in all MCHCs. All medical and nursing staff of FHS were given structured training in breastfeeding counselling. Since August 2002, the DH has implemented a departmental policy to promote breastfeeding among all staff and support breastfeeding in the workplace. Information kits on breastfeeding are produced and distributed to pregnant women in antenatal clinics of hospitals and MCHCs. Every year, the FHS joins up with other community partners in launching publicity campaigns around the World Breastfeeding Week to raise public awareness on breastfeeding. The FHS also monitors the trend of local breastfeeding rate through collecting monthly reports from all public and private maternity units and conducting regular surveys in the MCHCs.
- 2.26 The SHS aims to safeguard both the physical and psychological health of school children through comprehensive, promotive and preventive health programmes to enable them to gain the maximum benefit from the education system and develop their full potentials. The SHS operates 12 Student Health Service Centres, which provides services such as health assessment (e.g. weight status measurement), health education (e.g. on healthy eating, physical activity participation) and individual health counselling for all primary and secondary school students.

2.27 The EHS provides primary health care to the elderly so as to improve their self-care ability, encourage healthy living and strengthen family support in order to minimise illness and disability. It offers integrated health services including health risk assessment, physical check-ups, counselling, curative treatment and health education to elderly people aged 65 and above through its 18 Elderly Health Centres. Tailored health education will be given to those with health risks, such as overweight, sedentary lifestyle or unhealthy diets, which are detected through health risk assessment. Collaborating with various elderly care providers, the 18 Visiting Health Teams (VHTs) reach into the community and provide health education for elders and their carers. The VHTs conduct educational outreach visits to residential care homes for the elderly to provide skill training for their staff on topics such as designing healthy menus for elders, enhancing fiber intake of residents, assessing residents' nutritional status. The EHS actively disseminates health information to the general public, including topics on diet and exercise, through pamphlets, internet webpages, telephone information hotlines, media programmes and interviews, and contributed articles to newspapers. To promote healthy eating and exercises for all, the EHS has produced various VCDs such as "Healthy Snacks", "Shopping Smart", "Exercise for Healthy Ageing" and "Maintenance Exercise for the Frail Elders". The EHS has also published a series of books including "Cookbook of Healthy Recipes" and "On Healthy Eating: The Science and Love of Food and Eating", which further promulgate the principle of healthy eating.

Health promotion programmes by other government departments and local organizations

2.28 Apart from the DH, other government departments such as the Leisure and Cultural Services Department (LCSD) and EDB also play a major role in promoting healthy lifestyles. Many local NGOs also actively participate in promoting healthy living. Based on the input from WGDPA Members, some 50 local health promotion programmes were identified and listed in Annex 4.

2. Diet, physical activity and health: Hong Kong situation

2.29 In accordance with the Ottawa Charter for Health Promotion, health promotion is defined as “the process of enabling **people** to increase control over and to improve their health”. For this process to make an impact on population health, the six elements of **PEOPLE**, namely **P**artnership, **E**nvironment, **O**utcome-focused, **P**opulation-based, **L**ife-course approach and **E**mpowerment, are considered as the core to planning and implementation of the health promotion programme. Using these six criteria, some examples of health promotion good practices are identified and outlined below.

Jump Rope for Heart Program

2.30 The Hong Kong College of Cardiology has launched the “Jump Rope for Heart Program” in 1999 to motivate young people to adopt a heart healthy lifestyle through having physical activity, thus reducing the risk of heart diseases and stroke. The programme comprises four components:-

- Teaching skipping skills through provision of a set of teaching kit with guide books, ropes, DVDs, and posters to participating schools;
- Providing Heart Health Education through health talks by cardiologists, distribution of health education materials, slogan/poster design competitions, etc;
- Fund Raising which is used for operating the “Jump Rope for Heart Program” and organizing heart health promotional activities. 15% of the fund raised will be allocated to participating schools for the expenses of organizing the “Jump Off Day” and other health-related activities. Furthermore, students can help to disseminate the heart health message to their relatives and friends during fund raising. Besides, the fund raising mechanism of the “Jump Rope for Heart Program” assures its sustainability; and
- Organizing “Jump Off Day” by participating schools for their students to perform skipping skills so that more students will be motivated to join the programme.

Hong Kong Healthy Schools Award Scheme

- 2.31 The Centre for Health Education and Health Promotion of CUHK has launched the Hong Kong Healthy Schools Award Scheme for primary and secondary schools since 2001. The Scheme follows closely the Healthy Schools Programme promoted by the WHO. The Scheme covers six key areas, including health policies, health services, personal health skills, social environment, community relationships and physical environment. It builds on the concept of health promoting school to encourage educational achievement, better health and emotional well-being; thereby supporting students in improving their quality of life. It provides a structured framework for the development and implementation of healthy schools. A set of guidelines and standards with indicators for monitoring schools' progress and recognition of achievement are adopted. The organizer has recently launched the Hong Kong Healthy Pre-Schools Award Scheme to promote health among pre-school children. The Scheme has obtained part of its funding from the Quality Education Fund.
- 2.32 The above programmes comprise the six key elements for implementation of health promotion programme. The organizers closely collaborate with various parties such as the EDB, DH and participating schools to carry out the programmes. This draws together the strengths of people from different sectors with diverse knowledge and skills. The programmes adopt the setting approach and promote healthy living in schools, thus creating a supportive environment which enables students to cultivate the habit of healthy living. Clear guidelines and measurable indicators are established to gauge school development and monitor the progress. They are territory-wide programmes targeted for all schools in Hong Kong. The programmes promote healthy living in children which may help to reduce the risk of having NCD in their adulthood. Furthermore, the programmes also empower students with personal health skills, and equip the school managements with skills to create an environment that is conducive to students' health.

Analysis

Unhealthy dietary habit, physical inactivity and overweight/obesity are prevalent in the local population

- 2.33 Data from various sources have revealed that unhealthy dietary habit, physical inactivity, and overweight/obesity are common at different life stages of the local population starting from school age.
- 2.34 For dietary habit, the WHO recommends exclusive breastfeeding up to 6 months for newborns. Although many infants in Hong Kong have been breastfed on discharge from hospital, the exclusive breastfeeding rate remains low. Unhealthy dietary habit is also common among children and adults. Many children show preference and consume unhealthy food such as sugary drinks and deep-fried food. Similarly, majority of adults have certain unhealthy dietary habits such as inadequate fruit and vegetables consumption, and frequent sugary drinks. Overall, unhealthy dietary habit is more common among males.
- 2.35 Physical inactivity is prevalent in the territory. Local studies showed that about half of the students did not exercise enough. On the other hand, they spent a significant proportion of time on sedentary activities such as watching television and surfing internet. For adult population, about one-fifth are classified as having “low” level of physical activity and over half of them did not participate in any sports activity in the past three months. Similar to the children population, adults spend a lot of time on sedentary activities such as sitting. In general, females are less active than males.
- 2.36 The prevalence of overweight/obesity is on the rising trend in Hong Kong for both children and adults. As unhealthy dietary habit and physical inactivity are risk factors for overweight/obesity, it is not difficult to understand the reason behind. Overall, overweight/obesity is more common among males. Furthermore, the presence of cardiovascular risk factors such as high blood pressure and adverse lipid profile are not uncommon among both children and adult population.

Information gap on local epidemiology of unhealthy dietary habit and physical inactivity

- 2.37 It is clear that the unhealthy lifestyles practices are common in the local population. However, **information on the prevalence of unhealthy dietary habit and participation in physical activity among children, especially infants and young children, remains inadequate.**
- 2.38 Several government departments are conducting population-based surveys related to the dietary habit and physical activity participation of the local population. For example, the Study on the Participation Patterns of Hong Kong People in Physical Activities is being conducted by the CSC of the Sports Commission to examine the patterns of physical activity participation by the local population aged seven and above. The Food Consumption Survey 2005-2007 and the Total Diet Study (TDS) of the Food and Environmental Hygiene Department (FEHD) are being conducted to collect information on the food consumption patterns of the local adult population. While the above studies are expected to shed light on the behavioural and biomedical risk factors affecting the population at large, information focusing on infant and young children remains limited.
- 2.39 On the other hand, the DH has conducted the first population-based Child Health Survey to collect health information of local children aged 14 and below, such as health-related behaviours, health status and parenting issues. While the Child Health Survey of the DH may add to the current knowledge on health status of infants and young children, the survey has not been specifically designed for collecting data on dietary habit and physical activity, and the information generated from the survey may not be comprehensive to guide interventions that focus on children's dietary habit and physical activity. More information on this area is required to better define their health needs.
- 2.40 Besides, majority of local studies focus on revealing the prevalence of unhealthy dietary habit, physical inactivity or overweight/obese. **Information on the knowledge, attitude and practice, as well as incentives and barriers to people's adoption of healthy lifestyles is limited.** Thus, it is difficult to identify people's root reasons of having these risk factors.

Gap on local health promotion activities

- 2.41 As can be seen from Annex 4, **local health promotion activities are varied in nature and majority are organized independently by various organizations with minimal coordination among them.** Activities tend to promote healthy living, with school children and adults as the main target groups. Furthermore, despite the lack of detailed information, **the small scale and short-term nature of some of the local health promotion activities might imply a limited impact on improving population health.**
- 2.42 Besides, **health promotion activity targeting at young children is apparently scanty.** Individuals are influenced by factors acting at all stages of life and the risks of developing NCD accumulate with age. A good and healthy start in life creates a strong platform for the health of later life. By utilising opportunities at early life stages, it may be possible to achieve reduction in premature deaths and fewer disabilities in adulthood. Furthermore, it is far easier to establish good patterns of activity and eating habit than to change unhealthy habits that have become ingrained. Thus, intervention that promotes health in early life is important in reducing the risk of NCD in later years.
- 2.43 According to the WHO, the workplace has been established as one of the priority settings for health promotion into the 21st century. The workplace is not only one of the places where most of the time is spent; it also directly influences the physical, mental and social well-being of workers and in turn the health of their families and communities. There are more than three million people working in Hong Kong and workplace offers an ideal setting to promote healthy lifestyles for a large audience. However, **activities to promote healthy living in workplace for the working population are also limited.**

The role of NGOs and business sector in promoting health

- 2.44 The Ottawa Charter for Health Promotion presented by the WHO in 1986 recommended that health promotion lies beyond the health sector, emphasising that individuals have to take greater responsibility for their own health. The importance of partnership for health promotion was reiterated in WHO's *The Bangkok Charter for Health Promotion in a Globalized World* issued in 2005 (information on the concepts and practice of health promotion as an approach and tool to improving people's health is attached in Annex 5). In the *Western Pacific Regional Action Plan for NCD*, the Regional Office for the Western Pacific of WHO also urged Member States to encourage and promote community participation and grassroots mobilisation so as to establish a broad base of support for prevention and control of NCD and to ensure acceptability and effectiveness of policy and population-based interventions. The public health issue of overweight/obesity in Hong Kong thus cannot be tackled solely by the health care system, government or healthcare workers. Joint participation of all sectors is the key to success.
- 2.45 Many NGOs work for the welfare of the citizens and long-term sustainability of the society. They value social justice and equality, and the intrinsic rights of every individual. While society is obliged to provide individuals with the basic social and economic resources to develop their potentials, many NGOs encourage individuals to carry out their responsibilities towards their families and society, to be self-reliant and to achieve self-actualisation. In fact, many NGOs share common values in health promotion by motivating the community to take responsibilities for health and empowering individuals with knowledge and skills to make healthier decisions for health, while being mindful of the need to minimise the health equity gap. Thus on top of the efforts by the Government, NGOs' participation and support in health promotion is essential to enhance its effectiveness.
- 2.46 In Hong Kong, about 52% of the population is in the labour force and people spend more than one-third of the daily life at work. At individual level, promoting health in workplace can improve the well-being of the employees which will enhance their productivity. As such, a healthy workplace will be important for sustainable social and economic development. On the other hand, unhealthy workforce results in economic losses through absenteeism, injury and disease, direct and indirect health expenditures, and significant social costs to families, communities and society. Therefore, the commitment and contribution from the business sector is indispensable in improving and protecting population health.