

Healthy Aging: A Personal Responsibility

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The preventive approach to elderly health

- Consequences of the ageing population:
 - increasing disease and disability burden, with increasing costs to society and individuals
 - target of compression of morbidity with increasing life expectancy: active life expectancy (ALE) or disability free life expectancy (DFLE) as a public health indicator

What is Successful Ageing?

- Absence of chronic disease
- Absence of disability and impairment
- Psychological wellbeing

Components of Successful Ageing

- Social aspects - social support network
 - adequate finance
- Prevention of diseases - cardiovascular
 - musculoskeletal
 - dementia, depression
- Prevention of functional decline

- Lifestyle and disease
- Screening for disease and proper use of medication
- Empowerment of individuals to take up responsibility for their own health

WHY? HOW? EXAMPLES?

Lifestyle and disease

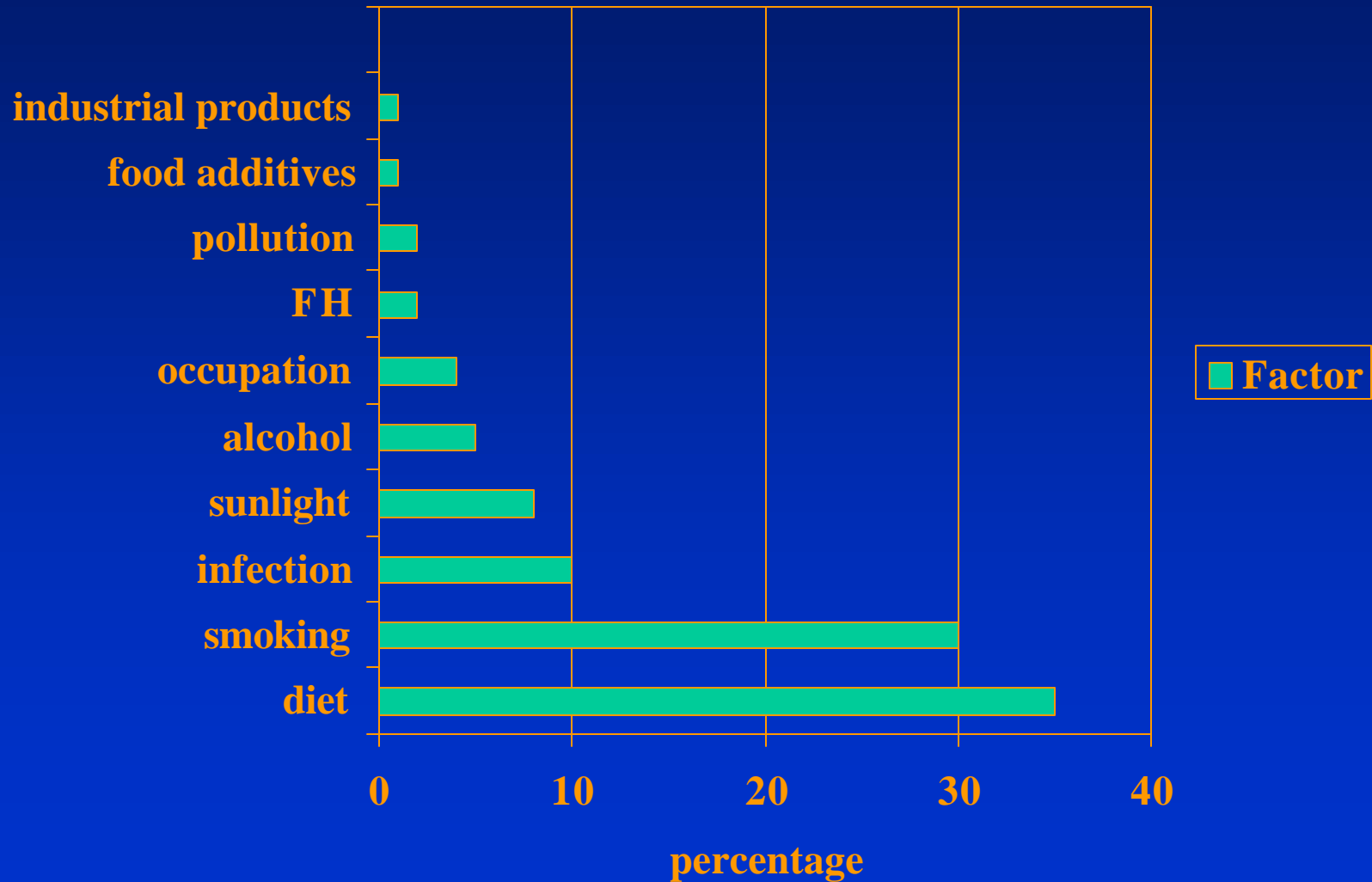
- Diet
- Exercise
- Smoking, alcohol
- Psychosocial factors

Cancer prevention: American institute for cancer research/USDA/NCI/American Cancer Society Dietary Recommendations

- Reduce intake of total dietary fat to $\leq 30\%$ of total calories
- Increase consumption of fruits, vegetables, whole grains and legumes
- consume salt-cured, pickled and smoked foods only in moderation
- Alcohol in moderation
- Physical activity - maintain weight

(Food pyramid)

Contribution of environmental factors to cancer causation



Compounds thought to have a protective role in cancer causation

- Indoles (cruciferous vegetables eg. Broccoli)
- folate
- Vitamin C, A, E, beta carotene
- Lycopene
- Selenium

Compounds with carcinogenic potential

- Fat/high calorie intake
- high heat cooking methods
- nitrites
- moulds (aflatoxin)
- pickled/smoked foods

Health risks of obesity

- Coronary heart disease, stroke, hypertension
- Neoplasms
- Diabetes mellitus
- Osteoarthritis
- Gallstones

New Food Pyramid for people over 70

- Water: 8 glasses a day (BOTTOM of pyramid)
- Grains (whole grain rice, cereals, pasta) 6 servings
- 3+ servings of vegetables and 2+ servings of fruits (particularly deeply coloured; cruciferous)
- 3+ servings of low fat dairy products
- 2+ servings of lean meats, poultry, fish, dry beans, nuts and eggs
- Fats, sugars and oils should be consumed sparingly (TOP)
- Supplementation of vitD, calcium, B12 for some individuals

Features of the Chinese Diet

- Percentage of calorie from fat $\leq 30\%$
- Percentage of energy from saturated fat $\leq 10\%$
- Cholesterol ≤ 300 mg
- Sodium > 2300 mg (100 mmol)
- Geographic, time trend, age-related and socioeconomic variations

The Hong Kong adult dietary survey 1995

- Percentage of the population fulfilling the recommended dietary pattern for heart health:
 - fat intake $\leq 30\%$ **60%**
 - $\leq 10\%$ energy as saturated fats **85%**
 - $< 300\text{mg}$ cholesterol **50%**
 - $< 2300\text{mg}$ sodium **50%**
- Mean Calcium intake 500-600mg (recommended 800-1200mg)
- Less healthy pattern in those with lower education, men, and smokers

Soy products

- Beneficial for bone health, heart health (hypocholesterolemic effect, ?direct effect on endothelium), ?cancer
- Overall intake of soy products in Hong Kong is lower than in Japan, but higher than in Western countries
- In men, higher soy intake is associated with lower LDL cholesterol
- In women 45-55, higher soy intake is associated with slower rate of bone loss

Physical activity

- Benefits of exercise in weight maintenance, prevention of mobility decline, various chronic diseases, the body's defence mechanisms, and psychological benefits.
- % of HK population taking part in exercise >30 mins/day 1-7 times each month ranges from 50% in middle age to <10 % in those aged 70 years and over

Physical activity

- What forms of exercise and how frequent?
- Brisk walking: 50% drop out rate after a few months; the rest continued for one year
- TaiChi: reduced bone loss, improves balance and leg strength, as well as flexibility. Ongoing study to examine the cardiovascular and metabolic effects of Tai Chi. Good compliance rate.

Smoking

- Even for those aged 70+ (mean age 80 yrs), a 3 year prospective study showed that smoking increases all cause mortality and mortality from cancer, cardiovascular & respiratory diseases.

Ho et al J Am Geriatr Soc 1999;47:1445-1450

Alcohol

- U shape relationship with mortality after MI and in the prevention of ischaemic stroke
- Beneficial effect of moderate intake in lipid & haemostatic factor profile
- Effect of confounding factors uncertain

Effect of lifestyle on 3 year mortality and other outcomes in HK Chinese aged 70+

- **Reduced mortality:** daily exercise, occasional alcohol intake, nonsmoker, daily fish intake
- **Depressive symptoms:** daily exercise ≥ 20 mins, occasional alcohol drinker
- **Hospitalization:** daily exercise
- **Self-perceived health:** occasional alcohol drinker

Body weight in elderly aged 70+

- Even in the absence of disease, 3 times as many subjects lost ≥ 5 kg over a 3 year period as gained (15% v. 5%), age being the only contributing factor
- Decline in fat free mass as well as fat mass was associated with increased mortality, dependency, and performance measure

(Woo J et al. J Am Geriatr Soc 2001; in press)

Psychosocial factors

- Emotional health
 - Optimists live longer than pessimists*
 - Anger increases cardiovascular risk and homocysteine levels*
 - Single women live longer and have less physical and mental health problems (opposite findings for men!)*
 - Laughter strengthen the immune system*

Social Support

- 1000 elderly Hong Kong Chinese age 70+ years; cross sectional study
- High level of psychosomatic symptoms is associated with:
 - being female
 - living in institutions
 - low level of social support
 - low level of self-worth

Ho et al, J Epidemiol Community Health 1988;42:377-82

Future tasks in achieving the goal of successful ageing

- Establish an indicator of successful aging and ensure a regular monitoring mechanism, incorporating it as a health indicator similar to mortality data
- Check on current public knowledge, identify gaps and misconceptions (probable need to check different age and socioeconomic groups)

Tasks (cont)

- Formulate public health message as a comprehensive lifestyle message
- Decide on the most effective method of dissemination for different target groups
- Evaluate results
 - short term: improvement in knowledge
 - long term: effect on health indicator
(eg.DFLE)

Current examples

- HK Government web site
- Council for Smoking and Health
- Hospital Authority HealthInfoWorld
- DH (schools, elderly health centres and residential care sector)
- SWD and NGOs (various programmes in elderly care centres and institutions)
- Education Dept: Healthy Schools
- Academic institutions (research, health education, health promotion)

Screening for disease

- Condition should be relatively common and of important health consequence, and that is treatable
- Sensitive and specific screening method
- Cost effectiveness and cost benefit considerations:
Number needed to screen to achieve one favourable outcome; cost of screening; health care costs saved as a result of good outcome; societal versus individual perspectives
- Mass screening, for breast, cervical, prostate, liver cancers, hypertension, diabetes, coronary heart disease, TB, osteoporosis: need for firm evidence based policy.

Examples for Hong Kong

- Mass screening for breast cancer (50-69): need to screen 17,500 over 7 years to achieve one death avoided, at a cost of \$ 7 million (using the higher rates of occurrence in the West) (HA Clinical Effectiveness Unit, issue 11,2001)
- Screening for liver cancer in HbSAg carriers 40-69: estimated number of persons needed to screen for 30 years is 16 for men (\$1.3 mil per life saved); 44 for women (\$3.5 mil per life saved), using 4 monthly ultrasound and blood tests. (Lam CLK.HK Practitioner 2000;22:546-551).

Proper use of medications

- Adverse reactions to drugs constitute 4.4% - 9.5% of admissions to acute hospitals in HK

(Chan TYK et al Drug Safety 1992;7:235-240; Pharmacoepidemiology Drug Safety 1995;4:165-170)

- Elderly people are particularly at risk because of multiple chronic diseases and symptoms, resulting in long term use of many drugs at the same time.
- Patient education, drug compliance checking, and guidelines for drug administration in the residential care sector would be important.

Empowerment to take up responsibility for own health

- Improve awareness and understanding:
need to gather concise material and use effective techniques, making use of psychological and advertising expertise
- Define target groups: children, housewives, workers, elderly
- Define setting: family, schools, workplace, residential care institutions, leisure areas eg. restaurants, cinemas