

Breast Cancer : A Public Health Concern

Key Messages

- ※ Breast cancer is the most common cancer among women in Hong Kong. In 2021, the Hong Kong Cancer Registry recorded 5 565 new female breast cancer cases. Among them, over 86% occurred in females aged 45 or above. Being the third leading cause of cancer deaths among local women, there were 792 registered deaths attributed to breast cancer in 2022.
- ※ The Cancer Expert Working Group on Cancer Prevention and Screening of the Government of the Hong Kong Special Administrative Region recommends women aged 44–69 with certain combinations of personalised risk factors putting them at increased risk of breast cancer to consider mammography screening every two years.
- ※ Local Chinese women aged 44–69 can use the Breast Cancer Risk Assessment Tool to assess their risk of developing breast cancer. Based on the assessment results, they can discuss with doctors to make an informed decision on breast cancer prevention and screening. To know more about the Breast Cancer Risk Assessment Tool, please visit Cancer Online Resource Hub at www.cancer.gov.hk/en/bctool.
- ※ Women are also urged to be breast aware (i.e. be familiar with the normal look and feel of the breast) at all times and lead a healthy lifestyle to reduce the risk of developing breast cancer.
- ※ The Department of Health will continue to promote breast awareness and healthy living for the prevention of breast cancer as well as work with various sectors of the community to promote breast cancer screening recommendations.

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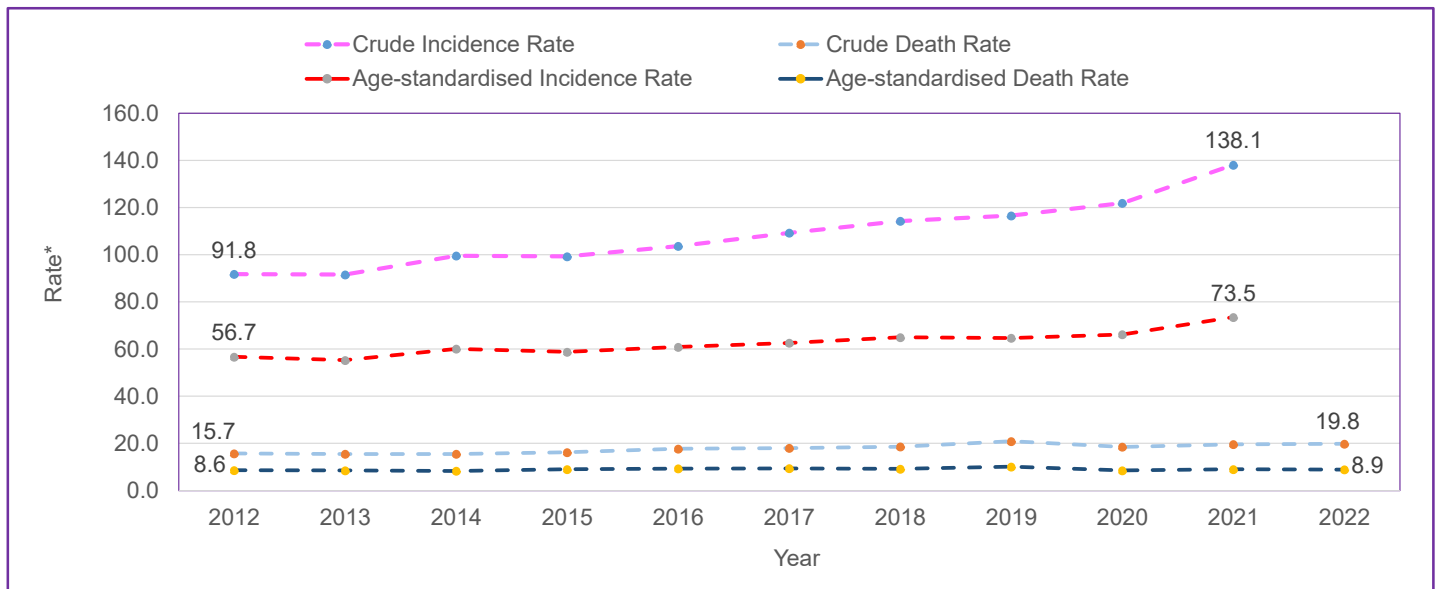
Breast cancer is a malignant tumour that develops in the breast tissue, primarily in the milk ducts (ductal carcinoma) or glands (lobular carcinoma). In 2022, breast cancer is the second most commonly diagnosed cancer among women with an estimated 2.3 million incident cases and an important cause of female cancer-related deaths with over 665 000 fatalities globally¹. If the current trends remain, the global breast cancer burden is projected to increase with 3.16 million new cases and 976 000 deaths estimated annually by 2040².

In an effort to reduce the global breast cancer burden (especially the mortality in the low- and middle-income countries), the World Health Organization (WHO) launched the Global Breast Cancer Initiative Implementation Framework³ in 2023 which provides a roadmap to attain the targets to reduce breast cancer mortality by 2.5% annually and save 2.5 million lives from breast cancer globally by 2040. Reaching the targets would rest on three pillars: (1) health promotion for early detection; (2) timely diagnosis; and (3) comprehensive management of breast cancer. As the stage of breast cancer at diagnosis is a major prognostic factor for survival, one of the key performance indicators is having at least 60% of breast cancers being diagnosed at an early stage (Stage I or II). Among Asian countries, national data from Singapore, Japan, the Republic of Korea and Mainland China showed more than 70% of breast cancer patients were diagnosed at the early stages and had a five-year survival rate exceeding 80%⁴. This article provides an overview of the local situation and the risk factors for breast cancer, with an update on initiatives to address the disease burden and recommendations on breast cancer prevention.

Burden of Breast Cancer among Local Female Population

As shown in Figure 1, there had been a gradual increase in both the incidence and death rates of breast cancer among local women over the past 10 years. In 2021, the Hong Kong Cancer Registry recorded 5 565 new female breast cancer cases, representing an increase of 58.6% from 3 508 cases in 2012. Among all newly diagnosed breast cancer cases in 2021, over 86% occurred in females aged 45–64 (54.1%) and 65 or above (32.3%) with the median age at diagnosis of 58 years. By stage distribution of breast cancer, 70.7% of the cases belonged to an early stage (Stage I: 56.5%; Stage II: 14.2%) when diagnosed⁵. The 5-year survival rates for breast cancer at early stages were over 90% (Stage I: 99.3%; Stage II: 94.6%), while the corresponding survival rates decreased to 76.2% for Stage III and 29.8% for Stage IV⁶. Being the third leading cause of cancer deaths among local women, there were 792 registered deaths attributed to breast cancer in 2022⁷.

Figure 1: Incidence and death rates of breast cancer among local women



Note: * Crude rate (per 100 000 population); Age-standardised rate (per 100 000 standard population) is computed by the direct method using the World standard population of Segi (1960).

Sources: Hong Kong Cancer Registry of Hospital Authority, Department of Health, and Census and Statistics Department.

Risk Factors for Breast Cancer

Beyond female sex and advancing age, the primary risk factors for breast cancer include: (i) genetic factors, such as a family history of breast cancer or ovarian cancer, or confirmed carrier (or family history) of certain gene (e.g. *BRCA1* or *BRCA2*) mutations; (ii) hormonal factors, such as early menarche (before age of 12), late menopause (after age of 55), receiving hormonal replacement therapy, using combined oral contraceptives, no childbirth, late first live birth (after age of 30) or no breastfeeding; (iii) medical factors, such as history of benign breast conditions or lobular carcinoma in situ (i.e. having abnormal cells in the lobules of the breast) and history of radiation therapy to the chest before the age of 30, and (iv) acquired factors, such as high body mass index (BMI), lack of physical activity and alcohol drinking^{3, 8}.

To identify significant factors and assess breast cancer risk among local Chinese women, the Government of the Hong Kong Special Administrative Region (Government) commissioned The University of Hong Kong to conduct a case-control study with 3 501 cases (patients with breast cancer and ductal carcinoma in situ) and 3 610 controls (women without any cancer history prior to recruitment). In addition to age-related risk, the study reported that positive family history of breast cancer among first-degree relative, prior diagnosis of benign breast disease, young age at menarche, nulliparous or older age at first live birth, overweight and obesity, as well as lack of physical activity were associated with an increased risk of breast cancer development⁹. For local Chinese women aged 44–69, they can use the Breast Cancer Risk Assessment Tool developed by The University of Hong Kong to assess their risk of developing breast cancer. Based on the responses given to several simple questions, the assessment tool would accordingly provide a personalised risk level along with health advice and recommendations on breast cancer screening (Figure 2). To know more about the Breast Cancer Risk Assessment Tool, please visit Cancer Online Resource Hub at www.cancer.gov.hk/en/bctool. Of note, the tool is designed for estimating individual risk of developing breast cancer, it does not definitely tell who will or will not develop breast cancer, nor can it be considered as a form of medical diagnosis or medical consultation. For any enquiries on the assessment results, users should consult doctors.

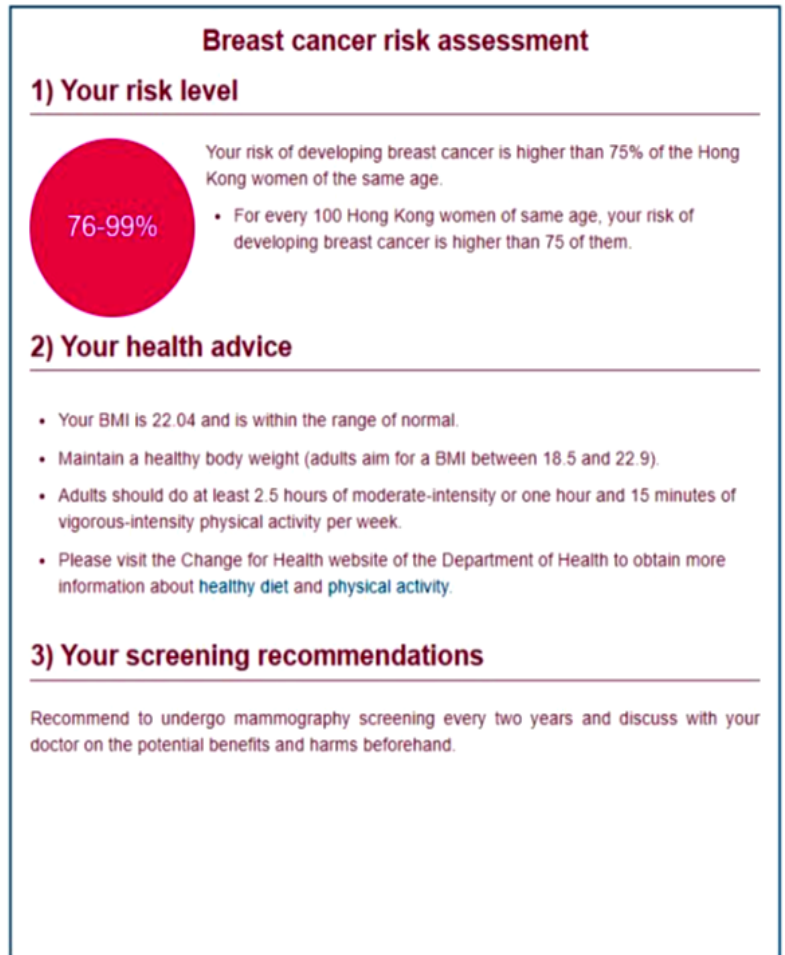
Breast Awareness and Primary Prevention of Breast Cancer

Women are recommended to be breast aware (i.e. be familiar with the normal look and feel of the breast) at all times. While the symptoms of breast cancer may not be easily noticed at an early stage, common symptoms of breast cancer include^{8, 10}:

- Breast lump;
- A change in the size or shape of the breast;
- A change in skin texture of the breast or the nipple (e.g. red, scaly, thickened or “orange-skin” appearance);
- Rash around, in-drawing of, or discharge from the nipple;
- New and persistent discomfort or pain in the breast or armpit;
- A new lump or thickening in the armpit.

Women should seek medical attention promptly for proper investigation and diagnosis if they develop any of the above symptoms.

Figure 2: An example of breast cancer risk assessment result with health advice and screening recommendations of the Breast Cancer Risk Assessment Tool



Healthy living can reduce the risk of developing breast cancer, despite predisposition by non-modifiable risk factors such as genetic inheritance. Epidemiological studies showed that high adherence to a healthy lifestyle was associated with an overall 20% decrease in breast cancer risk¹¹. Core primary preventive measures for breast cancer include^{12, 13}:

- ◆ Maintaining optimal body weight and waist circumference. Local Chinese women should aim for a BMI (which is calculated by dividing the body weight in kilogram (kg) by the square of height in meter (m): kg/m^2) between 18.5 and 22.9 kg/m^2 and a waist circumference of less than 80 centimeters;
- ◆ Staying physically active with at least 150–300 minutes of moderate-intensity physical activities (such as brisk walking), or an equivalent amount and intensity of aerobic physical activity throughout the week;
- ◆ Refraining from alcohol drinking. Alcohol is a Group I carcinogen (cancer-causing substance) as classified by the International Agency for Research on Cancer, belonging to the same category as tobacco and ionising radiation;
- ◆ Eating a balanced diet and avoiding processed meat which is carcinogenic;
- ◆ No smoking. Cigarette smoke contains numerous cancer-causing chemicals;
- ◆ Having children at an earlier age and breastfeeding each child for a longer duration.

Breast Cancer Screening

The purpose of breast cancer screening is to detect breast cancer before it gives rise to symptoms, so that early treatment can be initiated. Mammography is a widely used screening tool which uses low-energy X-rays to generate images of the breast for examination of the breasts. Based on available international and local scientific evidence, the Government's Cancer Expert Working Group on Cancer Prevention and Screening (CEWG) recommends to adopt a risk-based approach for breast cancer screening and makes the recommendations for women of different risk profiles (Table 1)¹³.

For women aged 44–69 with certain combinations of personalised risk factors putting them at increased risk of breast cancer, they are recommended to consider mammography screening every 2 years^{8, 13}. According to the Population Health Survey 2020–22, 41.6% of women aged 44–69 reported ever had a mammogram and 18% received regular mammogram (i.e. within 2 years)¹⁴.

Table 1: CEWG Recommendations on Breast Cancer Screening

Women at High risk (e.g. carriers of confirmed *BRCA1* or *BRCA2* gene mutations, with strong family history of breast or ovarian cancer, history of receiving radiation therapy to the chest before age of 30, etc.)

- They should seek advice from doctors for annual mammography screening and starting age for screening

Women at Moderate risk (i.e. with family history of ONLY one first-degree female relative with breast cancer diagnosed at age 50 years or younger; **OR** two diagnosed after the age of 50 years)

- They should have mammography screening every 2 years

Other women in general population aged 44–69 years with certain combinations of personalised risk factors putting them at increased risk of breast cancer

- They are recommended to consider mammography screening every 2 years
- They can use the Breast Cancer Risk Assessment Tool (accessible at www.cancer.gov.hk/en/bctool) for estimating the risk of developing breast cancer with regard to the personalised risk factors including age of menarche, age of first live birth, presence of history of breast cancer among first-degree relative, prior diagnosis of benign breast disease, BMI and level of physical activity

The Government is committed to reducing the impacts of breast cancer on the local female population and the entire society. The Department of Health will continue to promote breast awareness and healthy living for the prevention of breast cancer as well as work with various sectors of the community to promote breast cancer screening recommendations.



Breast Cancer Awareness Month has been designated as every October by the International Agency for Research on Cancer under the WHO (www.iarc.who.int), with an aim of raising awareness on breast cancer.

The Department of Health takes the opportunity of Breast Cancer Awareness Month to urge members of the public to lead a healthy lifestyle that can help lower the chances of getting breast cancer. For women aged 44–69 with certain combinations of personalised risk factors putting them at increased risk of breast cancer, they should consider mammography screening every 2 years. For more information on breast cancer prevention and screening, please visit Cancer Online Resource Hub at www.cancer.gov.hk/breastcancer.

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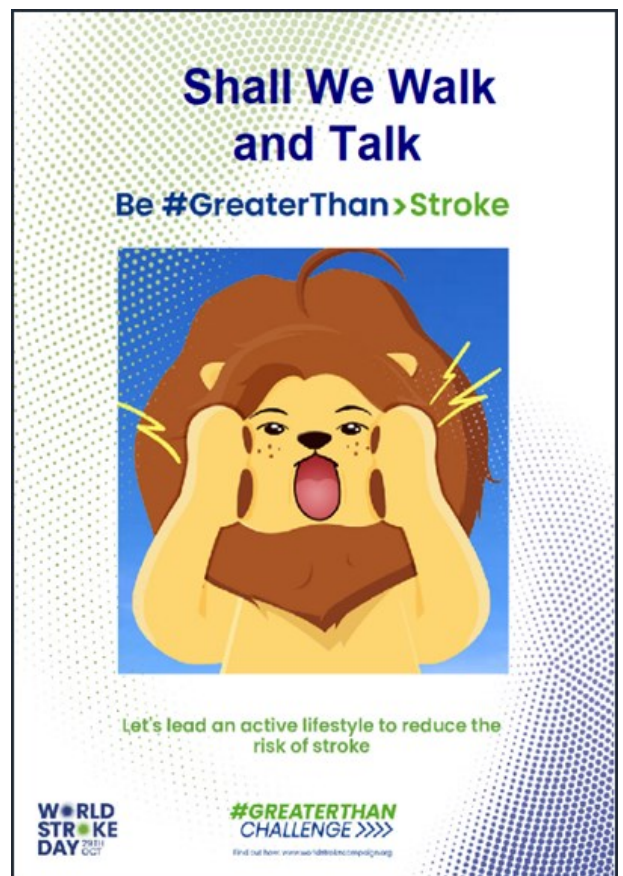
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World Stroke Day

29 October

World Stroke Day aims to raise awareness of stroke and reinforce the idea of stroke being preventable (for more information about World Stroke Day, please visit: www.world-stroke.org/world-stroke-day-campaign/world-stroke-day-2024). To reduce the chances of getting a stroke, one of the best things we can do is becoming physically active.

Walking as a way of conducting physical activity can guard against various chronic diseases and reduce the risk of stroke. Since 2022, the Department of Health launched the '10 000 Steps a Day Campaign' encouraging adults to gradually increase their daily step goal to 10000 based on their own physical conditions, abilities, pace and individual circumstances. The campaign has entered its third phase this year, and a walking challenge with the slogan of "Shall We Walk and Talk" will be launched in November 2024 to inspire members of the public to walk with friends and share the walking fun. For details, please visit the thematic website: www.10000stepsaday.hk/?lang=en.



Non-Communicable Diseases (NCD) WATCH is dedicated to promote public's awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community. The Editorial Board welcomes your views and comments. Please send all comments and/or questions to so_dp3@dh.gov.hk.

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