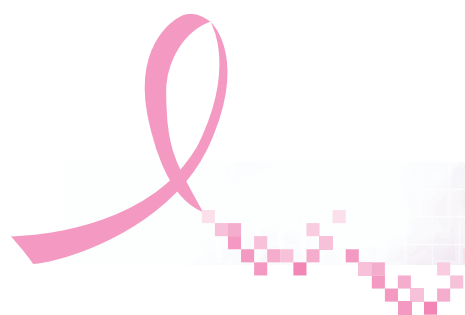




CHAPTER 1
PREVENTION AND
EARLY DETECTION
OF BREAST CANCER



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PREVENTION AND EARLY DETECTION OF BREAST CANCER

I. Introduction

1.1 It is well established that breast cancer is related to certain health factors and lifestyle behaviours. In this chapter, using the data collected on the demographics and socio-economic factors, lifestyle and health background from 28,806 Hong Kong breast cancer patients diagnosed between 2006 and

2026 and recruited in the Hong Kong Breast Cancer Registry (HKBCR), the distribution of these factors among patients in the local context was studied. Their breast health care practices, in particular, were also examined. These analyses aim to shed light on the causes of breast cancer in Hong Kong.

HIGHLIGHTS

This chapter reports the patient characteristics of 28,806 breast cancer patients diagnosed between 2006 and 2026 and recruited in the HKBCR.

- About 60% of the patients were aged between 40 and 59, with the median age at 53.4.
- About three-quarters attained secondary school level or above.

Risk factors

- The 10 most common risk factors of breast cancer, with the respective proportions of risk exposure, are listed below:

	%
Lack of exercise (<3 hours/week)	75.2
No breastfeeding	66.0
Being overweight/obese	40.9
High level of stress (>50% of time)	37.1
No childbirth/first live birth after age 35	30.0
Family history of breast cancer	16.5
Early menarche (<12 years old)	14.7
Diet rich in meat/dairy products	13.4
Habit of drinking alcohol	6.2
Use of hormone replacement therapy	3.4

- In the cohort with an 80% response threshold, 62.8% of the patients had three or more common risk factors, while 34.8% had one to two risk factors. Only 2.3% of the patients had none of the common risk factors.

Breast health care practices

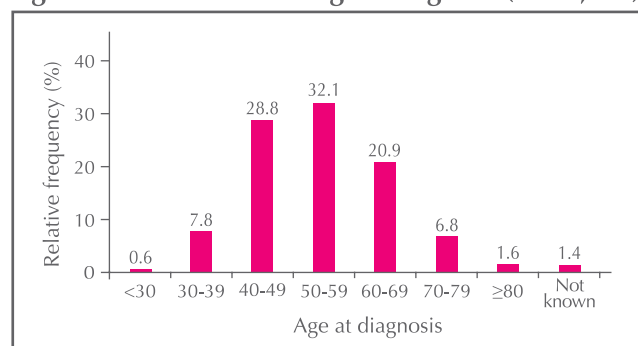
- Of the patients aged 40 or above, 63.3% had never undergone mammography (MMG) screening prior to cancer diagnosis, while about 20% had regular MMG screening.
- Patients with lower education levels had a lower proportion of undergoing regular MMG screening.
- Patients with lower monthly household income had a lower proportion of undergoing regular MMG screening.

II. Demographics

A. Age at diagnosis

1.2 The age at diagnosis ranged from 18 to 103 with about 60% of the patients aged between 40 and 59 (Figure 1.1), and the median was 53.4 years. It was found that patients in different age groups had different breast health care practices (Section IV below).

Figure 1.1: Distribution of age at diagnosis (N=28,806)

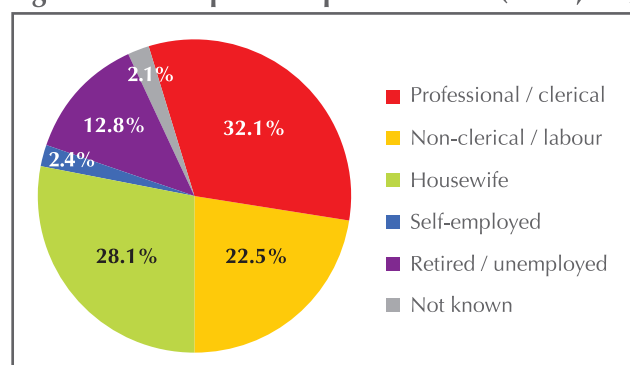


B. Occupation

1.3 Although international studies provided no evidence that occupation was related to breast cancer,² some studies suggested a certain degree of association between night shift and breast cancer.³ There were arguments that night shift work interacted with chronotype and resulted in a disrupted circadian rhythm due to exposure to artificial light at night.^{3,4}

1.4 A local study reported that women in the general population worked a median of 42.0 hours per week,⁵ which is consistent with the findings of the Hong Kong Breast Cancer Foundation (HKBCF). In this report, 57.0% of the patients were working at cancer diagnosis (Figure 1.2), and the median working hours was 45.0 per week. Of the employed patients, 8.5% had night shift duties, and the median number of nights they worked in a year was 54.0.

Figure 1.2: Occupation of patient cohort (N=28,806)



C. Education level and monthly household income

1.5 Studies conducted in Western countries and in Hong Kong found that lower education level and household income were associated with lower level of breast cancer awareness and less regular breast screening habits of women, even though they lived in the same city.⁶⁻⁹

1.6 In this report, 73.6% of the patients attained secondary school level or above, while the remainder had primary school level or below (Figure 1.3). Patients who attained lower education levels were less likely to undergo regular breast screening than those with higher education levels (Section IV below).

1.7 About 40% of patients had a monthly household income of \$30,000 or more, while nearly 20% had less than \$10,000 (Figure 1.4). Patients who had lower monthly household income were less likely to undergo regular breast screening than those with higher income (Section IV below).

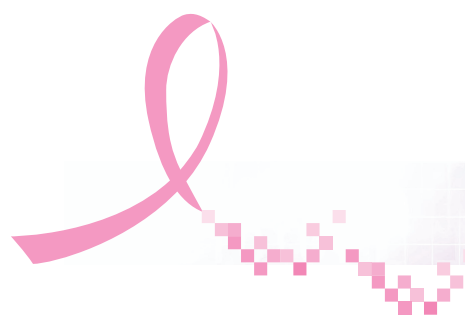


**Figure 1.3: Education level of patient cohort
(N=28,806)**

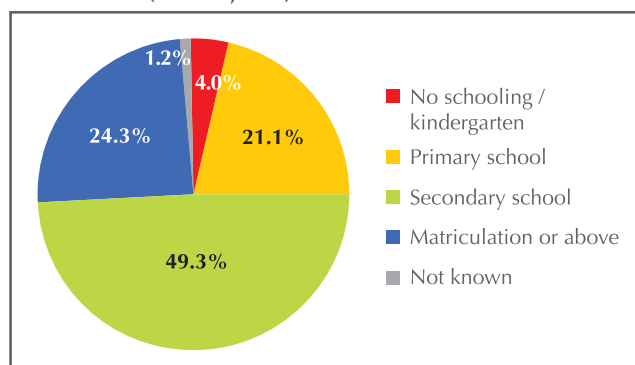


**Figure 1.5: District of residence of patient cohort
(N=28,806)**

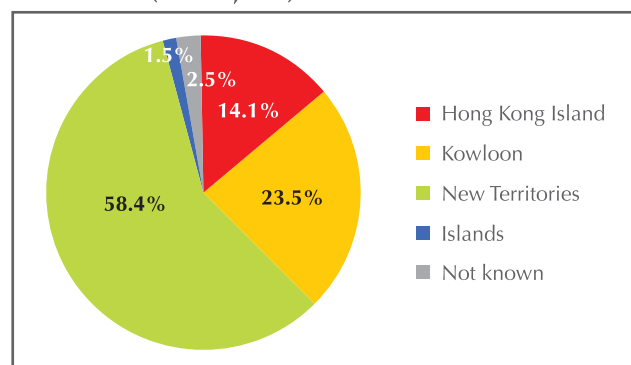
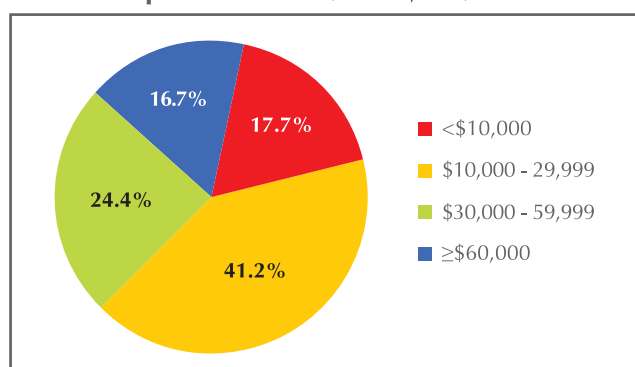


**Figure 1.4: Monthly household income (HK\$) of
patient cohort (N=16,629)**



D. District of residence

1.8 In the cohort, 58.4% of the patients resided in the New Territories, 23.5% resided in Kowloon, and 14.1% resided on Hong Kong Island (Figure 1.5). Patients living in the New Territories or Kowloon had less regular breast screening than those living on Hong Kong Island (Section IV below).

E. Bra band size and bra cup size

1.9 It is commonly perceived that women with large breast size may have higher risk of breast cancer. However, such a direct relationship lacks supporting evidence.^{10,11} Breast size is usually determined by the amount of fatty tissues, while breast cancer is a matter of fibroglandular tissue. A study indicated that breast cup size could account for breast density¹² which has a role in breast cancer risk.^{13,14} Another study found that women with the highest breast density had more than twice the risk of those with the lowest density.¹⁵ Therefore, only an indirect relationship between breast size and breast cancer risk was suggested.

1.10 In the cohort, 29.6% of the patients had a bra band size of 34 inches (Figure 1.6). For breast cup size, about three-quarters had a cup size of B or smaller, while only a small proportion had a cup size of D or above (Figure 1.7).

Figure 1.6: Bra band size of patient cohort (N=23,020)

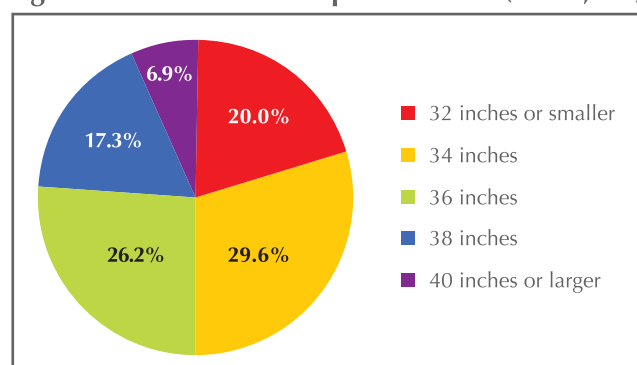
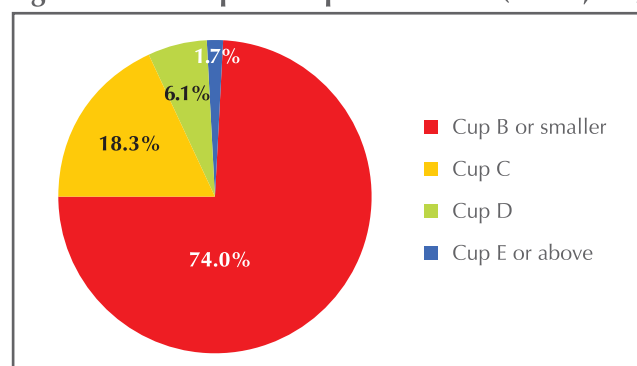


Figure 1.7: Bra cup size of patient cohort (N=20,064)



III. Risk factors and health background

A. Tobacco smoking

1.11 The International Agency for Research on Cancer (IARC) has classified tobacco smoking as a probable cause of breast cancer.³ According to the Report of Health Behaviour Survey 2023 by the Hong Kong Department of Health, 4.8% of women had smoked cigarettes before.¹⁶ Although the definitive relationship between active or passive smoking and breast cancer has yet to be established,¹⁷ the HKBCF found that current or ex-smokers were linked to a higher breast cancer risk.¹⁸

1.12 In the cohort, 4.9% of the patients reported that they had smoked prior to cancer diagnosis, and 44.4% of these smokers were still smoking at diagnosis. The mean packs of cigarettes consumed by current or ex-smokers, who had quit smoking for less than a year, were 3.7 per week in the preceding 12 months prior to cancer diagnosis.

B. Alcohol drinking

1.13 The IARC has classified alcohol consumption as Group 1 carcinogen for breast cancer for people of all ages.³ The risk of breast cancer increases with the amount of alcohol consumed. For every 10 g ethanol (i.e. one standard drink, approximately equals to a 330 ml can of beer or a 100 ml glass of table wine or a 30 ml glass of high strength spirit) consumed per day, the risk of breast cancer is increased by 5% for premenopausal women and 9% for postmenopausal women.¹⁹ According to the Report of Health Behaviour Survey 2023 by the Hong Kong Department of Health, 18.4% of Hong Kong women in the general population had consumed alcoholic beverages in a 12-month period.¹⁶

1.14 In the cohort, 6.2% of the patients reported that they had been alcohol consumers (i.e. consuming five alcoholic drinks or more in a 12-month period) at some point in their life, and 41.1% of them still consumed alcohol at diagnosis.

C. Dietary and exercise habits and stress level

1.15 Most findings on the effect of dietary factors on breast cancer risk were inconclusive and inconsistent. However, a link between physical activity and prevention of postmenopausal breast cancer was found.¹⁹ The HKBCF also found a negative association between physical exercise and breast cancer risk, in that working out for three hours or more per week would help reduce breast cancer risk not only among postmenopausal women but also among premenopausal women.¹⁸

1.16 In the cohort, 71.5% of the patients had a balanced diet, while 13.4% ate a diet rich in meat or dairy products (Figure 1.8). About one-quarter of the patients exercised three hours or more per week, while about two-fifths never exercised in the year prior to diagnosis (Figure 1.9).

1.17 Current studies on stress as a risk factor for breast cancer are non-conclusive and the subject requires further investigation. The HKBCF, nevertheless, found increased risk in women with a perceived high level of psychological stress, when it is measured at a global level with all the possible stressors included.¹⁸ In this report, 37.1% of the patients said that they had experienced high level of stress in the year prior to cancer diagnosis (Figure 1.10).

Figure 1.8: Dietary habits at diagnosis (N=28,806)

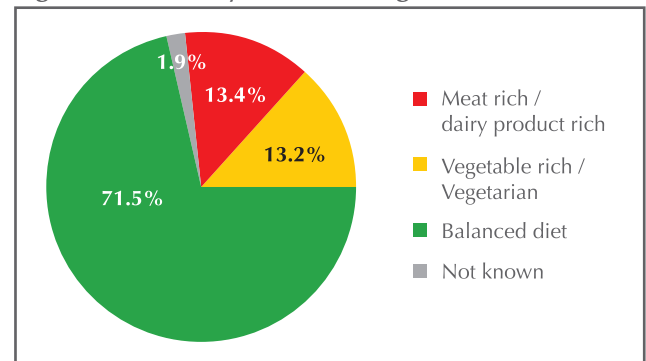


Figure 1.9: Exercise habits at diagnosis (N=28,806)

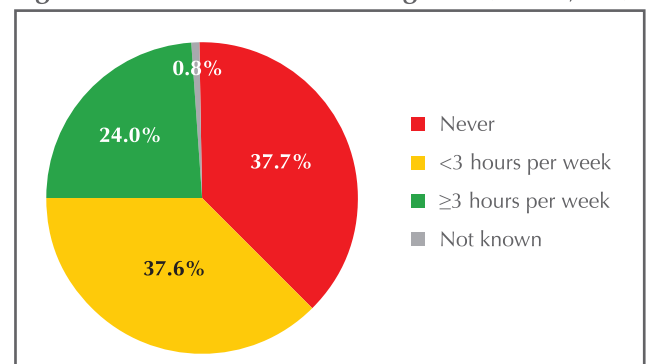
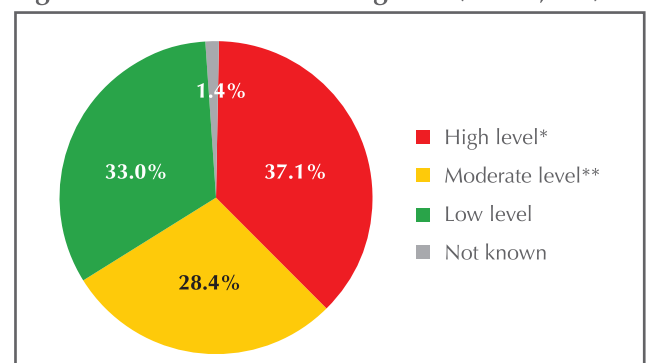


Figure 1.10: Stress level at diagnosis (N=28,806)



* High level is defined as more than 50% of the time

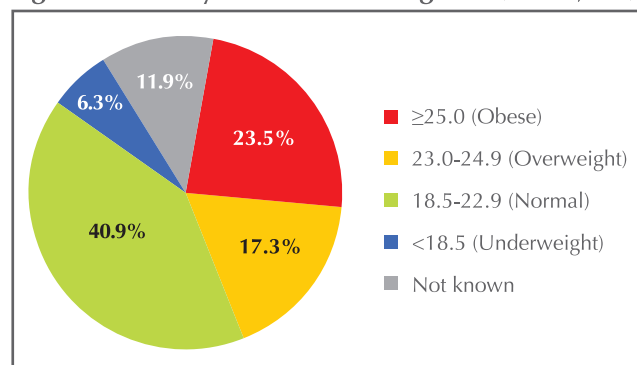
** Moderate level is defined as 25%-50% of the time

D. Height, weight and body mass index

1.18 Body mass index (BMI) is a heuristic method of estimating human body fat based on an individual's height and weight. It is calculated by dividing weight in kilograms by height in metres squared (kg/m^2). Overweight and obesity for Asian women were defined as having BMI of 23.0 to 24.9 and 25.0 or over respectively. Obesity is considered a risk factor for breast cancer.^{18,20} A local study found that 19.7% and 26.4% of women aged 15 to 84 in Hong Kong were classified as overweight and obese respectively.²¹

1.19 In this report, the patient cohort had an average height of 158.0 cm and an average weight of 57.8 kg. About two-fifths of the patients were overweight or obese (Figure 1.11).

Figure 1.11: Body mass index at diagnosis (N=28,806)



E. Family history of breast cancer

1.20 It was found that breast cancer risk was higher among women who had one first-degree relative with breast cancer, compared to women who had no first-degree relatives with the disease. The risk was even higher among women with multiple first-degree relatives affected by breast cancer, or with relatives who were diagnosed before the age of 50.^{22,23} In the cohort, 16.5% of the patients had a family history of breast cancer (Table 1.1).

Table 1.1: Family history of breast cancer at diagnosis (N=28,806)

	Number	%
No	23,759	82.5
Yes with first-degree relative(s)	3,384	11.7
Yes with non first-degree relative(s) only	1,323	4.6
Yes but details not known	57	0.2
Family history not known	283	1.0

F. Personal history of non-breast tumours

1.21 International studies and research conducted in Hong Kong Chinese cohort estimated that 5% to 10% of breast cancer patients are genetically predisposed.^{24,25} Breast cancer risk was higher in women with histories of germline-mutation-related types of cancer, including Hodgkin lymphoma, melanoma, lung adenocarcinoma, bowel cancer, uterine cancer and chronic lymphocytic leukaemia, or any type of cancer in childhood.²⁶⁻³¹ On the other hand, breast cancer risk was found to be lower in cervical squamous cell carcinoma survivors.^{30,31} In this report, 2.2% of the patients suffered from other types of malignant tumours prior to breast cancer diagnosis (Table 1.2), and the most common tumour was colon/rectum cancer (Table 1.3).

Table 1.2: Personal history of non-breast tumours at diagnosis (N=28,806)

	Number	%
No	23,506	81.6
Benign tumour	4,175	14.5
Malignant tumour	642	2.2
Nature of previous tumours not known	96	0.3
History of tumours not known	387	1.3

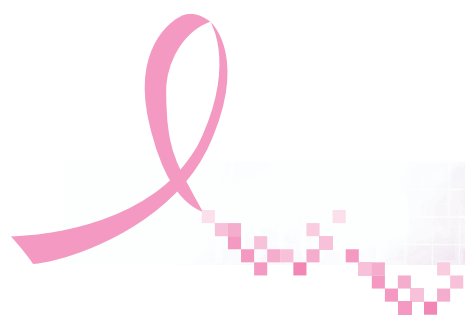


Table 1.3: Prior non-breast malignant tumours reported by patients (N=642)

	Number	%
Colon/rectum	100	15.6
Uterus	89	13.9
Thyroid	85	13.2
Lung	40	6.2
Cervix	39	6.1
Ovary	36	5.6
Nasopharynx	24	3.7
Lymphatic system	19	3.0
Others*	119	18.5
Not known	120	18.7

* Others included liver, skin, bladder, etc.

Note: The total percentages may exceed 100 as multiple body parts may be involved.

G. History of benign breast disease

1.22 Several studies found that women with certain types of benign breast disease would have an increased risk of breast cancer.³² Benign breast disease can be classified into three categories: non-proliferative disease, proliferative disease without atypia, and proliferative disease with atypia. Non-proliferative diseases, such as fibroadenoma or other fibrocystic diseases, are generally not associated with an increased risk of breast cancer.³² On the other hand, proliferative diseases without atypia (e.g. papilloma and papillomatosis) and proliferative diseases with atypia [e.g. atypical ductal hyperplasia (ADH) and lobular neoplasia, including atypical lobular hyperplasia (ALH) and lobular carcinoma in situ (LCIS)] are associated with varying degrees of increased breast cancer risk.³²

1.23 The proportion of patients who had history of benign breast disease was 14.0% (Table 1.4). Fibroadenoma, which does not increase the risk of breast cancer, was the most common (45.9%). In addition, 21 patients suffered from ADH and four suffered from LCIS prior to breast cancer diagnosis (Table 1.4).

Table 1.4: History of benign breast disease at diagnosis (N=28,806)

	Number	%
Have history of benign breast disease	4,046	14.0
Type of benign breast disease		
Fibroadenoma	1,856	45.9
Fibrocystic disease	602	14.9
Microcalcification	87	2.2
Inflammation	113	2.8
Papilloma	62	1.5
Papillomatosis	12	0.3
Hyperplasia	359	8.9
Lipoma	35	0.9
Atypical ductal hyperplasia	21	0.5
Lobular carcinoma in situ	4	0.1
Others (e.g. other benign tumours)	736	18.2
Not known	266	6.6

Note: The total percentages may exceed 100 as multiple types of benign breast disease may be reported.

H. Early menarche, late menopause and reproductive history

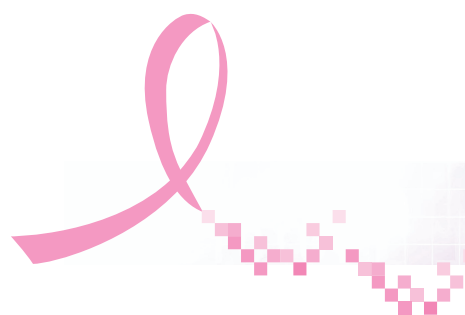
- 1.24 Life events such as early menarche (<12 years old), late natural menopause (>55 years old), not bearing children, and late first pregnancy (>35 years old) all increase the lifetime exposure to the hormone estrogen, thus increasing the risk of breast cancer. On the other hand, late menarche, early menopause, bearing children, and early pregnancy all reduce the risk of breast cancer.¹⁹
- 1.25 The mean age at menarche of the patients was 13.1, and 14.7% experienced early menarche (Table 1.5). Of the patients, 56.3% were postmenopausal. Among them, a small proportion experienced late menopause and the mean age at menopause was 50.1. In addition, the proportion of patients being nulliparous was 25.1%, and only 5.0% had their first childbirth after the age of 35 (Table 1.5). Among those who had given birth before, about 70% had two or more children (Table 1.6), and the mean age at first childbirth was 27.3.
- 1.26 Breastfeeding is considered a protective factor against breast cancer at all ages.^{18,19} In the cohort, about one-third of the patients had breastfed their children (Table 1.5), and the mean total duration of breastfeeding was 14.5 months.

Table 1.5: Menarche, menopause and reproductive history at diagnosis

	Number	%
Menarche (N=28,806)		
Early menarche (<12 years old)	4,224	14.7
Normal menarche ($\geq$ 12 years old)	22,294	77.4
Age at menarche not known	2,288	7.9
Menopause (N=16,213)		
Late menopause (>55 years old)	982	6.1
Normal menopause ($\leq$ 55 years old)	12,860	79.3
Age at menopause not known	2,371	14.6
Reproductive history (N=28,806)		
No childbirth	7,227	25.1
First childbirth at early age ($\leq$ 35 years old)	19,212	66.7
First childbirth at late age (>35 years old)	1,426	5.0
Age at first live birth not known	620	2.2
Reproductive history not known	321	1.1
Breastfeeding (N=28,806)		
Yes	9,384	32.6
No (had childbirth)	11,756	40.8
No (no childbirth)	7,195	25.0
No (reproductive history not known)	47	0.2
Not known	424	1.5

Table 1.6: Number of live births reported by patients (N=21,258)

	Number	%
1	6,437	30.3
2	9,640	45.3
3	3,327	15.7
4	1,096	5.2
5 or more	621	2.9
Not known	137	0.6



I. Use of hormonal contraceptives

- 1.27 Hormonal contraceptives contain synthetic sex hormones. They are administered in the form of oral tablets, injections, implants and transdermal contraceptive patches. Although the IARC has classified current or recent use of combined estrogen-progestogen oral contraceptives as a risk factor for breast cancer, some studies suggested that, compared to non-users, past users had no excess risk after discontinuing use for five to 10 years or 10 years or more.^{3,33,34} Conflicting results were obtained, however, when studying the correlation between breast cancer risk and injectable contraceptives or implants.³⁵⁻³⁹ Further investigation is therefore needed to ascertain the correlation between hormonal contraceptives and breast cancer risk.
- 1.28 The proportion of patients who had never used hormonal contraceptives was 70.6% (Table 1.7). Of the hormonal contraceptive users, 81.3% were past users at diagnosis. Among those with known cessation timelines, 11.7% had discontinued use within five years prior to cancer diagnosis.

Table 1.7: Use of hormonal contraceptives at diagnosis (N=28,806)

	Number	%
Non-user	20,330	70.6
OC use <5 years	3,963	13.8
OC use 5-10 years	2,035	7.1
OC use >10 years	831	2.9
Length of OC use not known	1,204	4.2
Not known if OC was used	443	1.5

OC: hormonal contraceptives

J. Use of hormone replacement therapy

- 1.29 Hormone replacement therapy (HRT) contains synthetic sex hormones and is used to relieve postmenopausal symptoms. The IARC has classified current use of combined estrogen-progestogen HRT for menopausal symptoms as a risk factor for breast cancer.³ Of the postmenopausal patients, only 2.2% had used HRT for five or more years (Table 1.8).

Table 1.8: Use of hormone replacement therapy at diagnosis (N=16,213)

	Number	%
Non-user	15,022	92.7
HRT use <5 years	514	3.2
HRT use 5-10 years	286	1.8
HRT use >10 years	72	0.4
Length of HRT use not known	94	0.6
Not known if HRT was used	225	1.4

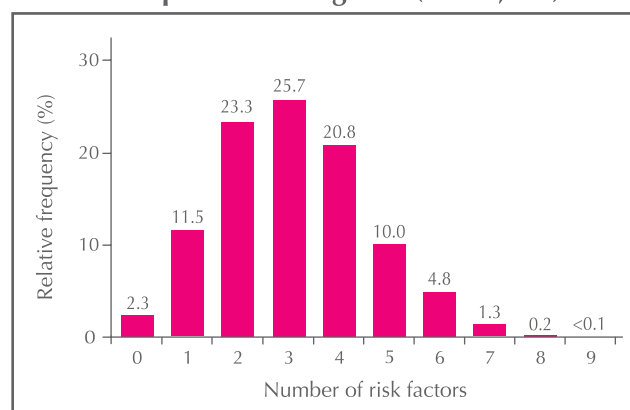
HRT: hormone replacement therapy

K. Ten most common risk factors associated with breast cancer in Hong Kong

- 1.30 Among all the risk factors studied, the majority of patients reported a lack of exercise, followed by no breastfeeding experience and being overweight or obese (Table 1.9). The combination of multiple risk factors multiplies the risk of getting breast cancer, with self-perceived high level of stress contributing independently to a more than two-fold increase in risk.¹⁸ In the cohort with an 80% response threshold, 62.8% of the patients had three or more common risk factors, while 34.8% had one to two risk factors. Only 2.3% of the patients had none of the common risk factors studied (Figure 1.12).

Table 1.9: Ten most common risk factors for breast cancer in patient cohort (N=28,806)

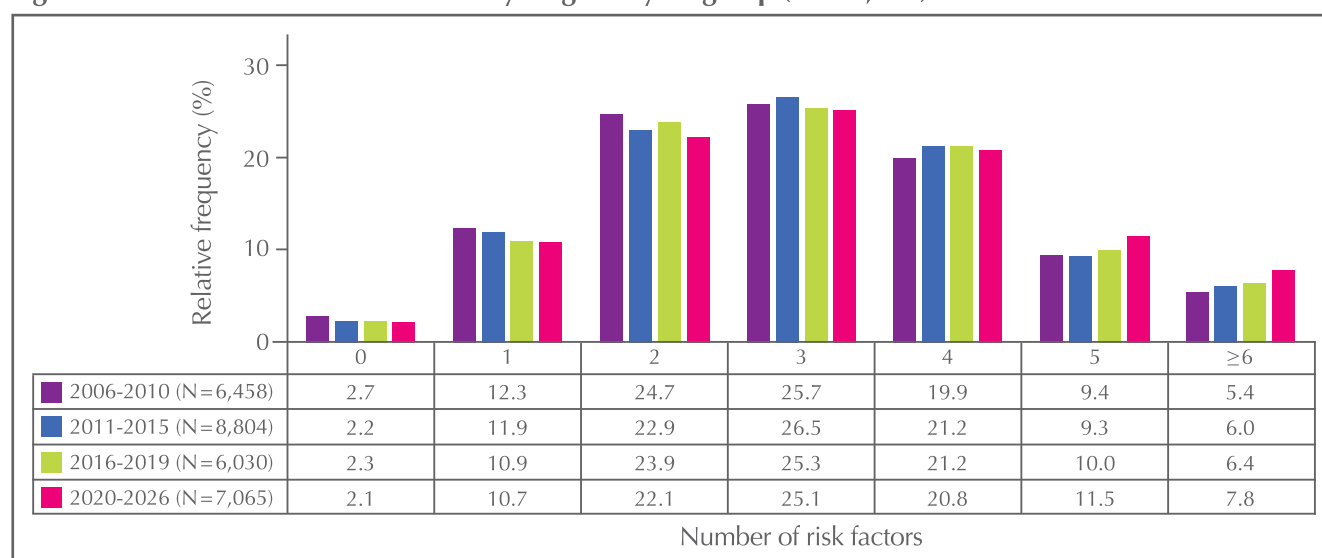
	Number	%
Lack of exercise (<3 hours/week)	21,675	75.2
No breastfeeding	18,998	66.0
Being overweight/obese	11,770	40.9
High level of stress (>50% of time)	10,692	37.1
No childbirth/first live birth after age 35	8,653	30.0
Family history of breast cancer	4,764	16.5
Early menarche (<12 years old)	4,224	14.7
Diet rich in meat/dairy products	3,853	13.4
Habit of drinking alcohol	1,776	6.2
Use of hormone replacement therapy	966	3.4

Figure 1.12: Distribution of risk factors among patients at diagnosis (N=28,357)

Note: This distribution only included patients who responded to at least 80% of the 10 risk factor items. For those with 1-2 missing responses, numbers were proportionally scaled to a total of 10 items.

1.31 When stratified by diagnosis year group, lack of exercise, no breastfeeding and being overweight/obese remained the top three most common risk

factors over time (Table 1.10). Also, the proportion of having three or more risk factors was highly comparable across groups (Figure 1.13).

Figure 1.13: Distribution of risk factors by diagnosis year group (N=28,357)

Note: This distribution only included patients who responded to at least 80% of the 10 risk factor items. For those with 1-2 missing responses, numbers were proportionally scaled to a total of 10 items.

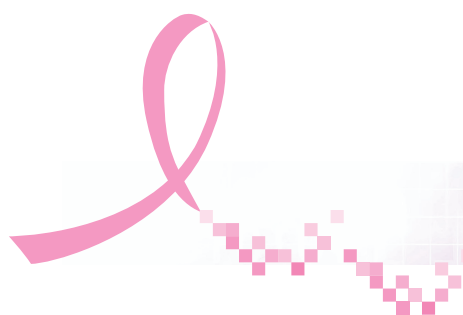


Table 1.10: Ten most common risk factors for breast cancer by diagnosis year group (N=28,806)

	Diagnosis year group, %			
	2006-2010 (N=6,676)	2011-2015 (N=8,899)	2016-2019 (N=6,095)	2020-2026 (N=7,136)
Lack of exercise (<3 hours/week)	76.5	78.6	76.3	69.0
No breastfeeding	64.7	66.9	66.4	65.6
Being overweight/obese	37.4	39.2	41.0	46.0
High level of stress (>50 of time)	37.1	37.4	36.4	37.5
No childbirth/first live birth after age 35	24.0	28.3	30.9	37.1
Family history of breast cancer	14.2	14.7	17.0	20.7
Early menarche (<12 years old)	13.6	14.3	14.5	16.3
Diet rich in meat/dairy products	14.2	14.3	12.8	11.9
Habit of drinking alcohol	4.8	4.9	6.8	8.5
Use of hormone replacement therapy	4.4	3.5	2.9	2.7

IV. Breast health care practices

A. Breast health care methods

- 1.32 Breast health care is a proactive strategy of checking women's breasts when there are neither signs nor symptoms of breast cancer, which helps to achieve earlier detection. Early detection reduces mortality from breast cancer. The common methods used for breast health care include breast self-examination (BSE), clinical breast examination (CBE), breast ultrasound (USG) and mammography (MMG) screening. While MMG, which uses low-energy X-rays to examine women's breasts, is the current gold standard method for breast cancer screening, the combination of BSE, CBE, and USG is useful to build personal and clinical breast awareness. BSE is done by the woman herself, checking for lumps, changes in size or shape of the breast, or any other changes in the breasts or underarm. CBE is conducted by a medical professional, such as a doctor or nurse, who uses his or her hands to feel for lumps or other changes. Unlike the previous two methods, USG uses high-frequency sound waves to detect breast opacity and is considered as a complementary tool to MMG.
- 1.33 The HKBCF recommends women aged 40 or above to perform monthly BSE as a measure of raising breast self-awareness, and also regularly undergo CBE and MMG screening. In addition, MMG screening plus USG is suggested for women with dense breasts. As there is no population-based breast screening programme in Hong Kong, the breast health care practices prior to cancer diagnosis studied in the current report were self-initiated. Although the Government has recommended risk-based population screening in average risk women since July 2020,⁴⁰ and launched Phase I of The Breast Cancer Screening Pilot Programme in September 2021 and Phase II in June 2025 to provide screening services for women with increased risk,^{41,42} these services should be expanded to a wider population for better cancer control.

B. Breast health care practices and age

1.34 The breast health care practices of the patient cohort were studied by age group (Table 1.11). For each age group, less than a quarter of the patients underwent regular BSE, USG or MMG screening (Table 1.11). Regular CBE was performed by about 40% of the patients aged below 60, but the proportions dropped for patients aged between 60

and 69 and aged 70 or above (Table 1.11). With the exception of patients aged below 40, the proportion of patients who had never performed BSE or had never undergone CBE and USG was positively correlated with age. In addition, 63.3% of the patients aged 40 or above had never undergone MMG screening.

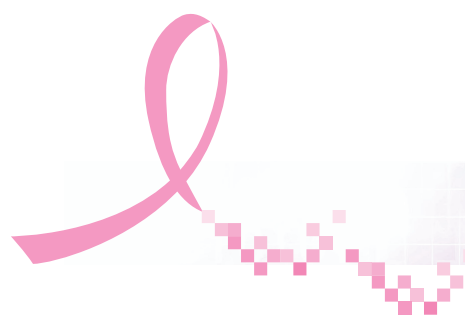
Table 1.11: Breast health care practices by age group

	Age group, %				
	<40	40-49	50-59	60-69	≥70
BSE (N=28,398)	(N=2,426)	(N=8,299)	(N=9,235)	(N=6,023)	(N=2,415)
Never	38.0	34.7	36.1	41.0	56.3
Occasional	42.4	42.3	41.2	39.4	29.7
Monthly	18.7	21.8	21.1	18.3	12.0
Not known	0.9	1.2	1.6	1.3	1.9
CBE (N=28,398)	(N=2,426)	(N=8,299)	(N=9,235)	(N=6,023)	(N=2,415)
Never	52.8	42.4	43.9	52.9	72.5
Occasional	14.6	16.0	16.8	18.0	13.0
Regular*	31.7	40.4	37.8	27.3	12.3
Not known	0.9	1.2	1.5	1.8	2.2
USG[#] (N=25,972)		(N=8,299)	(N=9,235)	(N=6,023)	(N=2,415)
Never	—	62.8	62.7	66.9	79.8
Occasional	—	12.9	14.0	14.6	10.1
Regular*	—	22.2	21.2	16.1	7.7
Not known	—	2.1	2.2	2.4	2.4
MMG screening[#] (N=25,972)		(N=8,299)	(N=9,235)	(N=6,023)	(N=2,415)
Never	—	65.6	59.1	60.8	77.1
Occasional	—	12.6	14.8	16.8	12.0
Regular*	—	20.3	24.4	20.8	8.7
Not known	—	1.4	1.6	1.7	2.2

BSE: breast self-examination; CBE: clinical breast examination; USG: breast ultrasound; MMG: mammography

* "Regular" is defined as engaging in the breast health care method every 1-3 years

[#] Only included patients aged 40 or above



C. Breast health care practices and education level

1.35 Breast health care practices were further examined by patients' education level (Table 1.12). The findings suggested that patients with lower education levels engaged in lesser breast health care practices. In the cohort, 85.5% of the patients who had kindergarten level or no schooling had never undergone MMG screening, compared to

46.5% of the patients who attained matriculation level or above. Similar disparities were observed for other methods, with the corresponding figures at 65.4% compared to 26.9% for BSE, 75.7% compared to 32.5% for CBE, and 87.5% compared to 46.3% for USG.

Table 1.12: Breast health care practices by education level

	Education level, %			
	No schooling / Kindergarten	Primary school	Secondary school	Matriculation or above
BSE (N=28,460)	(N=1,143)	(N=6,092)	(N=14,215)	(N=7,010)
Never	65.4	48.4	38.0	26.9
Occasional	23.1	32.9	39.1	51.8
Monthly	10.8	17.6	21.4	19.6
Not known	0.6	1.0	1.4	1.7
CBE (N=28,460)	(N=1,143)	(N=6,092)	(N=14,215)	(N=7,010)
Never	75.7	62.2	48.2	32.5
Occasional	11.1	13.8	16.0	20.3
Regular*	12.4	23.0	34.2	45.6
Not known	0.8	0.9	1.6	1.6
USG[#] (N=25,655)	(N=1,106)	(N=5,962)	(N=12,981)	(N=5,606)
Never	87.5	77.4	66.2	46.3
Occasional	5.7	9.9	13.3	19.1
Regular*	6.0	11.1	18.3	31.9
Not known	0.8	1.6	2.2	2.7
MMG screening[#] (N=25,655)	(N=1,106)	(N=5,962)	(N=12,981)	(N=5,606)
Never	85.5	73.8	63.9	46.5
Occasional	7.4	11.7	14.1	19.1
Regular*	6.4	13.5	20.2	32.8
Not known	0.6	1.1	1.8	1.6

BSE: breast self-examination; CBE: clinical breast examination; USG: breast ultrasound; MMG: mammography

* "Regular" is defined as engaging in the breast health care method every 1-3 years

[#] Only included patients aged 40 or above

D. Breast health care practices and monthly household income

1.36 Breast health care practices were also analysed according to patients' monthly household income level (Table 1.13). Figures show that patients with lower income had engaged in lesser breast health care practices. In the cohort, 70.7% of the patients with monthly household income of less than \$10,000 had never underwent MMG screening,

compared to 37.3% of the patients who had income of \$60,000 or more. Similar differences were observed for other methods, where the corresponding figures were 42.0% compared to 21.7% for BSE, 58.9% compared to 22.1% for CBE, and 74.2% compared to 38.2% for USG.

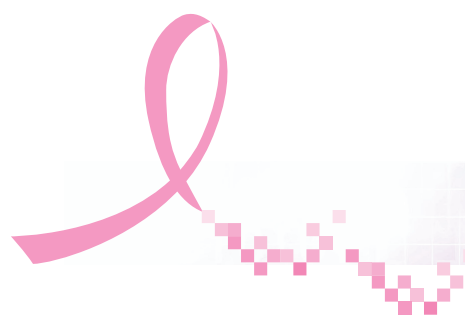
Table 1.13: Breast health care practices by monthly household income (HK\$)

	Monthly household income (HK\$), %			
	<10,000	10,000 – 29,999	30,000 – 59,999	≥60,000
BSE (N=16,629)	(N=2,942)	(N=6,854)	(N=4,051)	(N=2,782)
Never	42.0	36.1	29.6	21.7
Occasional	40.8	42.9	49.4	56.6
Monthly	15.9	19.9	19.8	20.1
Not known	1.3	1.2	1.2	1.5
CBE (N=16,629)	(N=2,942)	(N=6,854)	(N=4,051)	(N=2,782)
Never	58.9	45.9	34.3	22.1
Occasional	15.8	16.2	18.7	21.0
Regular*	23.8	36.8	45.9	55.0
Not known	1.4	1.1	1.1	1.9
USG# (N=14,599)	(N=2,753)	(N=6,089)	(N=3,357)	(N=2,400)
Never	74.2	66.6	53.2	38.2
Occasional	11.7	13.3	16.9	21.2
Regular*	12.2	18.0	28.1	37.5
Not known	1.8	2.0	1.7	3.1
MMG screening# (N=14,599)	(N=2,753)	(N=6,089)	(N=3,357)	(N=2,400)
Never	70.7	64.2	52.5	37.3
Occasional	12.6	14.4	17.5	20.7
Regular*	15.2	19.9	28.8	40.3
Not known	1.5	1.5	1.2	1.7

BSE: breast self-examination; CBE: clinical breast examination; USG: breast ultrasound; MMG: mammography

* "Regular" is defined as engaging in the breast health care method every 1-3 years

Only included patients aged 40 or above



E. Breast health care practices and district of residence

1.37 Breast health care practices were further stratified by patients' district of residence (Table 1.14). For each breast health care method, higher proportions of patients living in Kowloon or the New Territories reported no breast health care practice than those

living on Hong Kong Island. In addition, a higher proportion (31.2%) of patients living on Hong Kong Island had regular MMG screening than those living in Kowloon (18.5%) and the New Territories (19.0%).

Table 1.14: Breast health care practices by district of residence

	District of residence, %		
	Hong Kong Island	Kowloon	New Territories
BSE (N=27,674)	(N=4,072)	(N=6,767)	(N=16,835)
Never	30.5	42.1	39.1
Occasional	47.3	38.9	39.3
Monthly	19.5	17.4	20.7
Not known	2.7	1.6	0.9
CBE (N=27,674)	(N=4,072)	(N=6,767)	(N=16,835)
Never	34.1	53.8	50.1
Occasional	18.4	15.8	16.0
Regular*	44.6	28.8	32.9
Not known	3.0	1.6	1.0
USG# (N=25,020)	(N=3,637)	(N=6,132)	(N=15,251)
Never	50.5	68.2	68.2
Occasional	17.1	12.9	12.7
Regular*	27.7	16.7	17.7
Not known	4.7	2.2	1.4
MMG screening# (N=25,020)	(N=3,637)	(N=6,132)	(N=15,251)
Never	47.9	66.3	66.2
Occasional	17.9	13.5	13.8
Regular*	31.2	18.5	19.0
Not known	3.1	1.7	1.1

BSE: breast self-examination; CBE: clinical breast examination; USG: breast ultrasound; MMG: mammography

* "Regular" is defined as engaging in the breast health care method every 1-3 years

Only included patients aged 40 or above

F. Breast health care practices and diagnosis year group

1.38 When stratified by the diagnosis year group, the proportion of patients who underwent regular MMG screening remained at about 20% over time (Table 1.15). The proportions for other methods

were also comparable across groups, with the corresponding figures of approximately 20% for monthly BSE, 30% for regular CBE and 20% for regular USG.

Table 1.15: Breast health care practices by diagnosis year group

	Diagnosis year group, %			
	2006-2010	2011-2015	2016-2019	2020-2026
BSE (N=28,806)	(N=6,676)	(N=8,899)	(N=6,095)	(N=7,136)
Never	40.6	39.6	37.7	36.3
Occasional	35.5	40.4	40.0	44.9
Monthly	21.9	19.2	21.0	17.0
Not known	2.0	0.8	1.3	1.8
CBE (N=28,806)	(N=6,676)	(N=8,899)	(N=6,095)	(N=7,136)
Never	46.9	50.2	49.9	46.4
Occasional	12.3	15.0	18.6	20.0
Regular*	38.9	33.7	30.3	31.7
Not known	1.9	1.0	1.2	1.9
USG# (N=25,972)	(N=5,879)	(N=8,024)	(N=5,531)	(N=6,538)
Never	70.5	71.5	63.0	54.9
Occasional	9.4	10.4	15.5	19.0
Regular*	15.8	16.9	19.9	24.0
Not known	4.3	1.2	1.5	2.1
MMG screening# (N=25,972)	(N=5,879)	(N=8,024)	(N=5,531)	(N=6,538)
Never	67.7	68.1	61.5	54.8
Occasional	10.3	11.8	16.4	19.2
Regular*	19.8	18.9	20.8	24.0
Not known	2.1	1.1	1.3	2.0

BSE: breast self-examination; CBE: clinical breast examination; USG: breast ultrasound; MMG: mammography

* "Regular" is defined as engaging in the breast health care method every 1-3 years

Only included patients aged 40 or above