Breast Health and Sarawak

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Importance of Breast Health

- **All** Women have Breast.

- Being a women and Having Breast **itself** is a independent risk factor for Breast cancer.

- Every woman is at SOME risk for breast cancer.
Breast health

- The breast is a gland designed to make milk.
- Breast is Made up of Lobules, Ducts and Fat.
- They grow along with the growth of the women.
- They show various changes along the way of our life.
- The rapidly grow and regress under certain special conditions. i.e., Puberty and Menarche. Pregnancy, Termination of Pregnancy.
Breast System
Breast and Lymphatics
Axillary Lymph Nodes.
What is normal breast development?

- Breast development is a vital part of reproduction in the human female.
- The development and kinds of breast changes that take place are directly related to age.
- Ages of 10 and 25; glandular development, which is under the influence of menstrual hormones.
- Ages above 45, involution, or shrinkage of the milk ducts, which begins from about age 35 on.
What breast changes happen at puberty?

- The ovaries start to secrete estrogen.
- Fat in the connective tissue begins to accumulate causing the breasts to enlarge.
- The duct system also begins to grow. Once ovulation and menstruation begin, the maturing of the breasts begins with the formation of secretory glands at the end of the milk ducts.
What cyclical changes occur to the breasts during menstruation?

- During menstruation, many women also experience **changes in breast texture**.
- The glands in the **breast are enlarging** to **prepare** for a possible pregnancy.
- **If pregnancy does not occur**, the breasts return to normal size
What happens to the breasts during pregnancy and lactation?

- Many physicians believe the breasts are not fully mature until a woman has given birth and produced milk.
- By the **fifth or sixth month** of pregnancy, the breasts are fully capable of producing milk.
- **Estrogen controls** the growth of the ducts and **Progesterone controls** the growth of the glandular buds.
What happens to the breasts at menopause?

- The levels of estrogen and progesterone begin to fluctuate.
- Without estrogen, the connective tissue of the breast becomes **dehydrated** and **inelastic**.
- Without progesterone, the **nipple-areola complex** loses its texture.
The Conclusion

- Such an organ subjected to continuous harassment/Weather beaten damage.
- Rapid Progression and Regression.
- High wear and tear organ due to various Phases of womanhood.
- Prone for mutation if risk factors are in place.
It is **not possible to say** what exactly causes a woman’s breast cancer.

However, research has shown that **some factors** might **increase** a woman’s risk or chance of developing breast cancer. These factors are called **risk factors**.
Breast Cancer Risk Factors

- **Risk Factors You Cannot Change** – Non Modifiable.

- **Lifestyle-Related Factors and Breast Cancer Risk** – Modifiable.

- **Factors With Uncertain, Controversial, or Unproven Effect on Breast Cancer Risk**
Non Modifiable.

- Gender
- Age
- Genetic
  - Family history of breast cancer
  - Personal history of breast cancer
- Race
- Abnormal breast biopsy
- Previous chest radiation
- Menstrual periods
- Diethylstilbestrol (DES):
Non Modifiable- Age

- **Growing older** is the biggest risk for breast cancer. The longer you live, the higher your risk:
  - From birth to age 39, 1 woman in 231 will get breast cancer (**<0.5%** risk).
  - From ages 40–59, the chance is 1 in 25 (**4%** risk).
  - From ages 60–79, the chance is 1 in 15 (nearly **7%**).
Non Modifiable - Genetic

- BRCA1 and BRCA2 Mutated Genes.

- **5% to 10%** of breast cancer cases are hereditary as a result of gene changes (called mutations)

- BRCA testing is not an established service in Malaysia
Non Modifiable- Family History

Your risk increases if you have...

- The more blood relatives on the same side of the family who have had breast cancer
- The younger these relatives were when they were first diagnosed
- The more closely related these relatives are to you
Degree of Risk- Family History

- **1 first-degree relative** (mother, sister, or daughter) with breast cancer approximately **doubles** a woman's risk.

- Having **2, first-degree relatives** increases her risk 5-fold.

- Women with a family history of breast cancer in a **father or brother** also have an increased risk of breast cancer.

- Altogether, about **20% to 30%** of women with breast cancer have a family member with this disease.
Non Modifiable- Personal history of breast cancer

- A woman with cancer in one breast has a **3- to 4-fold** increased risk of developing a new cancer in the other breast or in another part of the same breast.
- This is different from a **recurrence** (return) of the first cancer.
Non Modifiable- Race

- **White women** are slightly more likely to develop breast cancer than are African-American women.
- Asian, Hispanic, and Native-American women have a lower risk of developing and dying from breast cancer.
- Among Malaysian the risk is higher in **Chinese**, Indian followed by Malay.
Non Modifiable- Some types of **benign breast conditions** are more closely linked to breast cancer risk than others
Abnormal breast biopsy – **Non Proliferative**

*Do not seem to affect breast cancer risk, or if they do at all it is to a very small extent*

- fibrosis
- cysts
- mild hyperplasia
- adenosis (non-sclerosing)
- simple fibroadenoma
- phyllodes tumor (benign)
- a single papilloma
- fat necrosis
- mastitis
- duct ectasia
- benign tumors (lipoma, hamartoma, hemangioma, neurofibroma)
Abnormal breast biopsy- **Proliferative with out Atypia**

*Raise a woman’s risk of breast cancer slightly* (1 ½ to 2 times normal).

- Usual ductal hyperplasia (without atypia)
- Complex fibroadenoma
- Sclerosing adenosis
- Several papillomas or papillomatosis
- Radial scar
Abnormal breast biopsy - **Proliferative with Atypia**

*Stronger effect on breast cancer risk, raising it 4 to 5 times higher than normal.*

- Atypical ductal hyperplasia (ADH)
- Atypical lobular hyperplasia (ALH)
The risk of developing breast cancer appears to be highest if the breast was still in development (during adolescence) when the radiation was given.
Non Modifiable-Menstrual periods

- Started menstruating at an early age (before age 12)
- Menopause at a late age (after age 55)
Non Modifiable - Diethylstilbestrol (DES):

- Women whose mothers took DES during pregnancy may have a higher risk for breast cancer than women not exposed to the drug in utero.
Lifestyle-Related Factors and Breast Cancer Risk - Modifiable
Modifiable Risk

- Not having children
- Oral contraceptive use
- Postmenopausal hormone therapy (also known as hormone replacement therapy, or HRT)
- Breast-feeding and pregnancy
- Alcohol
- Obesity and high-fat diets
- Physical activity
Oral contraceptive use

- Women now using oral contraceptives have a slightly greater risk of breast cancer than women who have never used them.
- Women who stopped using oral contraceptives more than 10 years ago do not appear to have any increased breast cancer risk.
Not having children

- Women who have had no children or who had their first child after age 30 have a slightly higher breast cancer risk.
- Having multiple pregnancies and becoming pregnant at an early age reduces breast cancer risk.
Postmenopausal hormone therapy (also known as hormone replacement therapy, or HRT)

Women's Health Initiative (WHI) Study.
- **Increased** risk of breast cancer related to the use of combined PHT.
- **Increased** the likelihood that the cancer would be found at a **more advanced stage**.
- **Reduce** the effectiveness of mammograms/abnormal findings on mammograms were noted.
- **Estrogen alone (ERT)** does not appear to increase the risk of developing breast cancer. But when used long term (**for more than 10 years**), ERT has been found to increase the risk of ovarian and breast cancer.
- **Estrogen can increase the risk of developing cancer of the uterus.** Progesterone is added to help prevent this.
Breast-feeding and pregnancy

- Studies suggest that breast-feeding may slightly lower breast cancer risk.
- Breast-feeding is continued for 1.5 to 2 years.
- Pregnancy and Breast-feeding reduce a woman's total number of lifetime menstrual cycles.
Alcohol

- 1 alcoholic drink a day have a very small increase in risk.
- 2 to 5 drinks daily have about 1½ times the risk of women who drink no alcohol.
Obesity and high-fat diets

- **Obesity** (being overweight) has been found to be a breast cancer risk in all studies, especially after *menopause*. 
- Connection between weight and breast cancer risk is *complex*.
- **Excess fat** in the *waist area* may affect risk more than the same amount of *fat in the hips and thighs*.
- **Calories** do count and fat is a major source of these.
Physical activity

- Women’s Health Initiative (WHI) recommends, as little as 1.25 to 2.5 hours per week of brisk walking reduced a woman's risk by 18%.

- American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention recommend that you engage in **45 to 60 minutes of intentional physical activity 5 or more days a week.**
Factors With Uncertain, Controversial, or Unproven Effect on Breast Cancer Risk
Unproven Effect on Breast Cancer Risk

- Antiperspirants
- Under wire bras
- Induced abortion
- Breast implants
- Environmental pollution
- Tobacco smoke
- Night work
Induced abortion

- Conference on abortion and breast cancer by the National Cancer Institute (February 2003) concluded that there was no relationship.
- **1997 Danish study**: A recent, massive, cohort study was completed in Denmark and published in a peer-reviewed journal: the *New England Journal of Medicine* for 1997-JAN-9.
Breast Implants

- Breast implants do not increase breast cancer risk.
- Implants make it harder to see breast tissue on standard mammograms.
- **Implant displacement views** can be used to more completely examine the breast tissue.
- **Environmental Pollution**
  - Research does not show a clear link between breast cancer risk and exposure to environmental pollutants

- **Tobacco smoke**
  - Chemicals in tobacco smoke reach breast tissue and are found in breast milk.
  - Evidence regarding secondhand smoke and breast cancer is "consistent with a causal association" in younger, mainly pre menopausal women.
Breast Health

- Some women with breast cancer had the risk factor.
- Some women with one or more risk factors might never develop breast cancer.
- Most women with breast cancer have no obvious risk factors (aside from getting older).
Facts and Figure
A Woman’s Chances of Breast Cancer Increases With Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>By age 30</td>
<td>1 out of 2,212</td>
</tr>
<tr>
<td>By age 40</td>
<td>1 out of 235</td>
</tr>
<tr>
<td>By age 50</td>
<td>1 out of 54</td>
</tr>
<tr>
<td>By age 60</td>
<td>1 out of 23</td>
</tr>
<tr>
<td>By age 70</td>
<td>1 out of 14</td>
</tr>
<tr>
<td>By age 80</td>
<td>1 out of 10</td>
</tr>
<tr>
<td>Ever</td>
<td>1 out of 8</td>
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</tbody>
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Breast Cancer in Malaysia

- **Breast cancer was the** commonest overall cancer as well as the commonest cancer in women amongst all races from the age of 20 years in Malaysia.

- Breast cancer is **most common in the Chinese**, followed by the **Indians and then, Malays**.

- Breast cancer formed 31% of newly diagnosed cancer cases in women in 2003.
Breast Cancer in Malaysia

Breast cancer in University Malaya Medical Centre, Kuala Lumpur 1993-2003
(Total number – 1818 cases)

No. of cases on the rise

Data Courtesy of Prof Dr Yip CH, UMMC, Kuala Lumpur
Sarawak

- Number of breast cancer on the rise (192 to 240)
- 30% of all the women cancer registered with us.

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- 40% present in the early stages
- 60% with advanced stages.
Any concern about Healthiness of the breast?
Many women are concerned that a breast change might be breast cancer. Even though this will not be true in most cases, it is very important that all breast changes are carefully investigated when ever and where ever possible.

If it is cancer, finding it early will mean a much better chance of effective treatment.
Breast changes/concerns:

- A lump or lumpiness.
- Any change in the shape or appearance of the breast such as dimpling or redness.
- An area that feels different to the rest.
- A discharge from the nipple.
- Any change in the shape or appearance of the nipple such as pulling in or scaliness (nipple inversion or retraction).
- Pain.
Investigating breast changes

The **triple test** includes:

- Clinical breast examination and taking a personal history
- Imaging tests i.e. mammography and ultrasound
- Non-surgical biopsy; i.e. a fine needle aspiration and core biopsy. This is when a sample of cells or tissue is extracted from the lump
CA153

- CA153 tumour marker for breast cancer that is commonly included in the “package” for **screening blood tests**. However, this marker is **elevated in only 7% of early breast cancer**, therefore making this rather useless as a test for screening.

- In **stage 4** (late stage) cancer, CA153 is **elevated in 90%** of the patients tested.
Question Time

Thank you