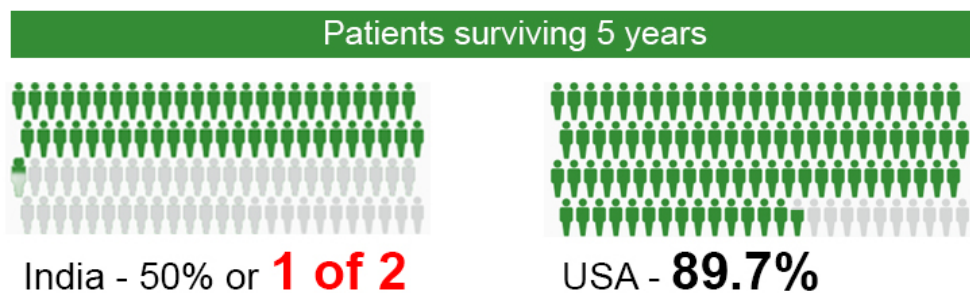


## BREAST CANCER FACT SHEET: INDIA

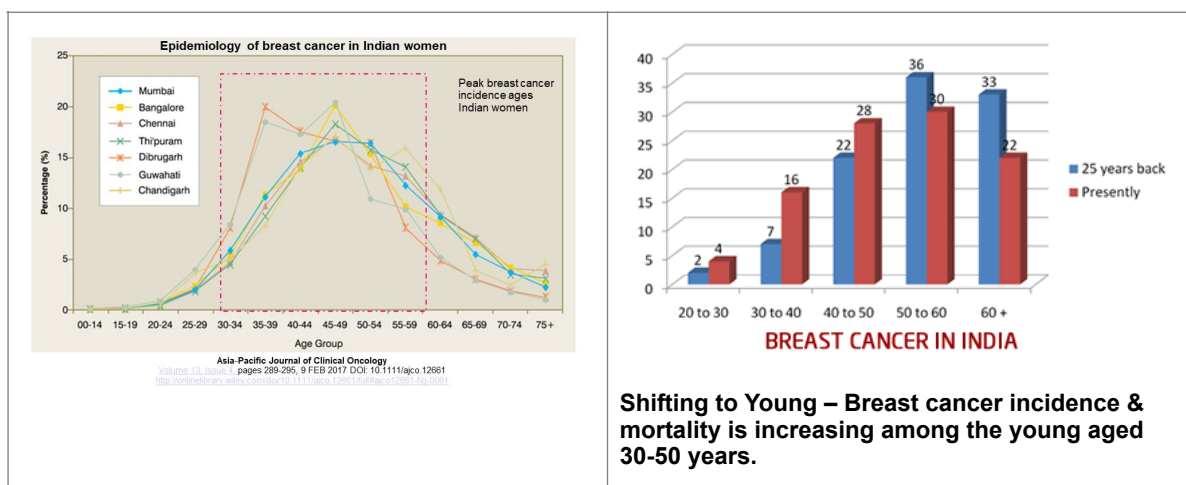
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### INCIDENCE & MORTALITY:

- ❖ Breast cancer is the most common cancer in women in India and accounts for 27% of all cancers.
- ❖ 1 in 28 women in India likely to develop breast cancer during her life time. India has a breast cancer incidence rate of 25.8/100,000 compared to 124.9/100000 of USA. However India has one of the lowest survival rates. 144,937 cases were diagnosed in India in 2012 with a prevalence of 396,990 patients. 70,218 of them did not survive the first 5 years.



- ❖ The average age for breast cancer in India is almost a decade lower than that in the west. Cancer in the young is extremely aggressive. Incidence rates begin to rise in the early thirties and peak at ages 50-64 years. 15-34 = 4.24%; 34-50 at 16%; Disease peaks in 40-50 among Indian women.



**EARLY DETECTION: at younger age improves survival and healthy life.( <35 years)**

- ❖ India does not have a breast cancer screening policy. Breast cancer screening/ diagnosis infrastructure and access is very limited.
- ❖ Mammography, FDA approved screening method is recommended for women aged 45 and above. Mammography misses out about 13% of cancers depending on age and density of breast. Overall screening mammogram misses out 1 in 5 breast cancers. (ACC). Mammography shows more false negatives in dense breasts.
- ❖ Only 12.5% women go for any kind of screening/diagnosis. Over 50% of breast cancer patients reported in advanced stages in India where as it is just 12% in the West. Socio-cultural issues are a big barrier in voluntary screening. (IJRMS)
- ❖ 70-80% in rural areas does not approach hospitals even during end stage.
- ❖ As per Registrar General of India have about 612 Million women in the age group of 15-80 out of which appx. 280 Million are in the 18-40 years age group who does not come under the FDA screening age recommendation.
- ❖ Younger Indians tend to have more dense breasts, where detection of disease is even more difficult with current imaging methods available in India. Over 95% of mammography systems in use in India are conventional mammography while digital mammography systems are considered more effective for dense breasts.

**SCREENING TECHNOLOGIES & EFFECTIVENESS:**

	Mammo-graphy	Ultrasound	MRI	CT & PET/CT	Thermography
Screening	<p><b>*</b></p> <p>87% accuracy Detects lump about 1 CM size. Age 45+ Radiation – 0.4 mSV = 7 Weeks Early detection helps earlier detection.</p>				<p><b>*</b></p> <p>97% Accuracy All Ages. Detects early – at vascular levels; before lumps are formed. No radiation. Earlier detection helps preventive measures.</p>
Diagnosis & Biopsy	<b>*</b>	<b>*</b>	<b>*</b>		<b>*</b>
Staging & Treatment Planning		<b>*</b>		<b>*</b>	
Treatment Monitoring & Surveillance	<p><b>*</b></p> <p>Repeated radiation not good. Detects re-growth when lump formed.</p>	<b>*</b>	<b>*</b>	<b>*</b>	<p><b>*</b></p> <p>No radiation. Repeat as many exams as required. Safe for patient. Detects early.</p>

Breast cancer develops from cells in the breast. The most common sign of breast cancer is a new lump or mass, but most are benign. The other signs include a generalized swelling of part of a breast (even if no lump is felt), skin irritation or dimpling, nipple pain or retraction, redness or scaliness of the nipple or breast skin, or a spontaneous discharge other than breast milk. The earlier breast cancer is found, the better the chances for successful treatment or preventive measures. A mammogram can often show breast changes that may be cancer before symptoms develop. A Thermogram is an FDA approved adjunct device and is capable of spotting breast anomalies at the earliest i.e. changes in the first few cells. CURA Illumina 360° world's first dedicated 360° view breast thermography system. The low survival rates in India and less developed countries can be explained mainly by the lack of early detection programs, resulting in a high proportion of women presenting with late-stage disease, as well as by the lack of adequate diagnosis and treatment facilities.

### **RADIATION. TREATMENT / THERAPY MONITORING & SURVEILLANCE**

- ❖ One PET/CT causes 25 mSv of radiation levels, equivalent to 8 years of natural background radiation.
- ❖ A CT scan causes 10mSv of radiation levels. i.e. 3 years of natural background radiation
- ❖ A Mammogram causes 0.4 mSv. i.e. 7 weeks of natural background radiation
- ❖ A chest x-ray causes 0.1 mSv. – 10 days of natural background radiation.

### **BOTTOM LINE:**

**Early detection can help save lives and treatment or preventive measurements are most successful.**

### **ADDITIONAL INFORMATION:**

#### **RISKS & CAUSES:**

- ❖ A woman's risk of breast cancer nearly doubles if she has a first-degree relative (mother, sister, and daughter) who has been diagnosed with breast cancer.
- ❖ Less than 15% of women who get breast cancer have a family member who has been diagnosed with it.
- ❖ About 5-10% of breast cancers are thought to be caused by inherited gene mutations (abnormal changes passed through families).

- ❖ Mutations of the *BRCA1* and *BRCA2* genes are the most common. Women with a *BRCA1* mutation have, on average, a 55-65% risk of developing breast cancer in their lifetimes. For women with a *BRCA2* mutation, the lifetime risk is 45%. An increased ovarian cancer risk is also associated with these genetic mutations.
- ❖ The most significant risk factors for breast cancer are gender (being a woman) and age (growing older)

### **PRE-MENOPAUSAL BREAST CANCER:**

There is strong evidence that:

- ❖ consuming alcoholic drinks increases risk
- ❖ undertaking vigorous physical activity decreases risk
- ❖ being overweight or obese between the ages of about 18 and 30 years decreases risk
- ❖ being overweight or obese in adulthood before the menopause decreases risk
- ❖ developmental factors leading to greater linear growth (marked by adult attained height) increase risk
- ❖ factors that lead to greater birth weight, or its consequences, increase risk
- ❖ breastfeeding decreases risk (breast cancer type unspecified) in the mother

### **POST-MENOPAUSAL BREAST CANCER:**

There is strong evidence that:

- consuming alcoholic drinks increases risk
- being physically active (including vigorous physical activity) decreases risk
- being overweight or obese between the ages of about 18 and 30 years decreases risk
- being overweight or obese throughout adulthood increases risk
- greater weight gain in adulthood increases risk
- developmental factors leading to greater linear growth (marked by adult attained height) increase risk
- breastfeeding decreases risk (breast cancer type unspecified) in the mother

### **REFERENCES:**

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