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Breast Cancer Age in Developing Countries: The Narrowing Gap

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Abstract

Aim: The notion that breast cancer in developing countries that it is characterized by young age appears to be changing with the fast pace of the changing life style. This review aims evaluate and document the age pattern change of breast cancer at diagnosis in a developing country.

Materials and Methods: This review was undertaken at King Fahd hospital of the university, Al Khobar Eastern province of Saudi Arabia between Jan 2000 to December 2017. All patients diagnosed with breast cancer were included. Medical records, pathology reports were thoroughly reviewed and emphasis on age at the first presentation with confirmed diagnosis was documented.

Results: The total number of patients diagnosed with breast cancer was 654 patients. Age ranged from 24 years to 91 years with the mean age of 48 years. The increasing age at diagnosis between 2000 – 2 - 17 was noticeable as it has progressively increased from peaking in the early thirties in 2000 to late mid - fifties the 2017. Almost half of the patients were within the active reproductive age group of women, ranging age between 20 to 50 years, accounting for 319 (49%). The lower occurrence was demonstrated in the lower and higher age groups. As expected the mean age has risen from early forties in 2000 to the late fifties 2016/17.

Conclusion: This progressive and steady rise in age suggests the change in the demographics of breast cancer in developing countries. It appears that with the change in lifestyle that is slowly changing the disease pattern reflected by narrowing the age gap at diagnosis between the developing countries and the developed countries.

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Introduction

The fast pace of urbanization in developing countries has created changes in many disease patterns. Breast Cancer is no exception; it had gained a steady momentum in incidence and is currently posing unforeseen Challenges in management [1]. The overall burden of breast cancer is moving more towards the vulnerable populations in countries with limited resources. Well - tailored strategies for breast cancer treatment in developed countries are not cost effective in the ill-prepared developing countries [2]. Many reports from developing countries have shared the fact that breast cancer occurs in the younger population as compared to the west and is characterized by delayed presentations [3]. The changing demographics of breast cancer in developing countries over the last two decades had helped in the emergence of public health interest in all aspects of the disease pattern, epidemiology and treatment outcomes. This may have a positive impact on cancer control strategies.

Materials and Methods

This review was under taken at King Fahd hospital of the university, the affiliated hospital to Imam Abdulrahman bin Faisal University, Al Khobar Eastern province of Saudi Arabia between Jan 2000 to December 2017. All patients diagnosed with breast cancer were included. Medical records, pathology reports were thoroughly reviewed and emphasis on age at the first presentation was documented.

Results

The total number of patients diagnosed with breast cancer at KFHU between January 2000 to December 2017 was 654 patients. The number of cases diagnosed with breast cancer annually has increased over the years from 13 patients in 2000 to 74 patients in 2017 (Figure 1). Age ranged from 24 - 91 years with the mean age of 48 years. The increasing age at diagnosis between the years was

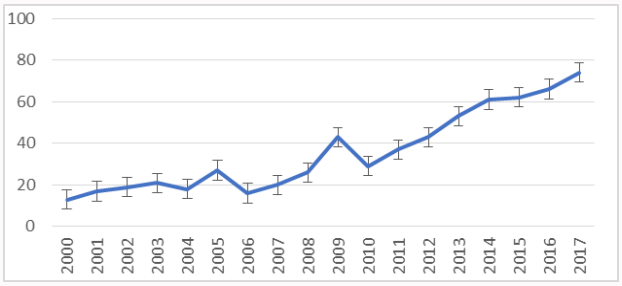

Figure 1: Progressive increase in the number of diagnosed breast cancer 2000 - 2017.

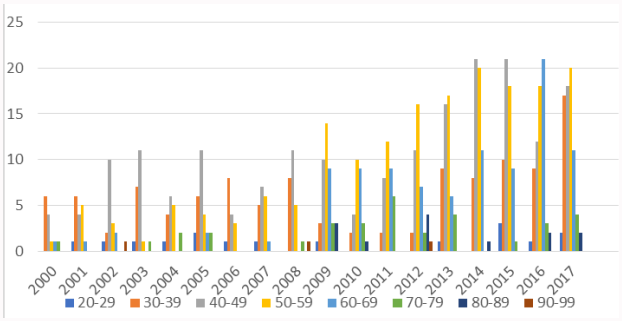

Figure 2: Age variation pattern 2000-2017.

noticeable it has progressively increased from the peak of the early thirties in 2000 to the peak late mid-fifties in the 2017 (Figure 2). The majority of the patients were within the active reproductive age group of women. The age ranged is between 20 - 50 years, accounting for 319 (49%). The lower occurrence was demonstrated in the extremes of age in the fully developed women. It was also noted 24% of cases were below the age of 40 years (Table 1). This group represents a subset of age group who would require special consideration during screening and breast imaging for symptomatic presentations. This table also demonstrates the reduction in the below 40 age group from 2000 - 2017 and the increase in patients between 40 - 59 over the same period (Figure 3). Despite the fact that breast cancer incidence is increasing in all age groups, yet it was noted that there is a rising age pattern at diagnosis. This has become more apparent midway of the study period (2000-2017) (Figure 4). As expected the mean age has risen from early thirties in 2000 to late the fifties in 2016/2017. This progressive and steady rise in the mean age has suggested the change in the disease pattern. The narrowing age gap between the developing countries and the western countries is noted in this study (Figurer 5).

Discussion

Globally, breast cancer causes 327000 deaths each year. The annually estimated new cases are 1.35 million with a projected number of 1.7 million to be diagnosed with breast cancer in 2020. This reflects an increase of 26%. Most of the occurrences are in the developing countries [2]. This disease burden poses unforeseen challenges in management and outcomes in low income countries and countries with limited resources. Cancer detection and management strategies have resulted in high survival rates in western countries while lower rates are reported in the underprivileged developing countries [4]. Contrary to the reported age pattern of breast cancer in developing countries which can easily be explained by the younger population as compared to the western population, the incidence of breast cancer increases with age during the reproductive years,

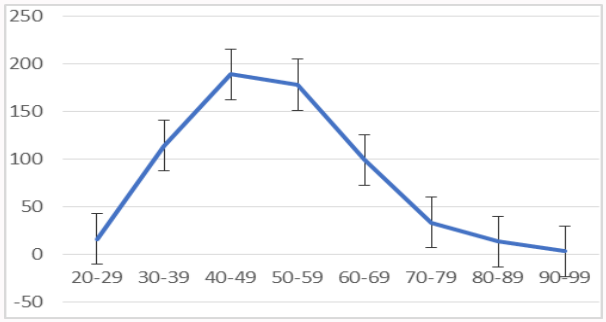

Figure 3: Showing the peak age of breast cancer at KFHU.

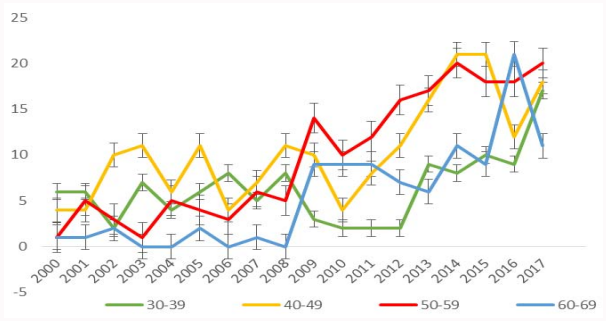

Figure 4: Reduction in younger breast cancer and progressive rise in the older group.

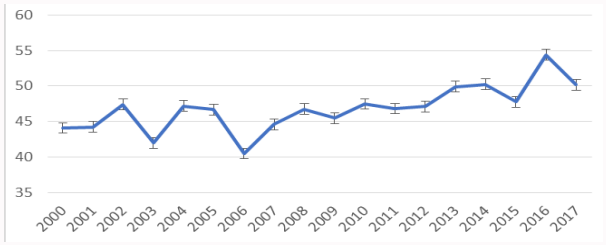

Figure 5: Progressive rise in the mean age between 2000 to 2017.

peaking at 7th decade [5]. Despite the rising incidence of breast cancer in developing countries, it is not evident that it is attributed to the changes related to the epidemiological risk factors [6]. Due to the young nature of the female body breast cancer among young women in any population tends to be clinically and pathologically aggressive, with rapid progression and a higher mortality rate compared to older women. Some reports have shown breast cancer in women below the age of 40 years accounts for 7% with worse survival rates compared to those in older women [7]. This review had shown that 24% of cases were below the age of 40 years. Special attention should be directed to this group of women which represents a subset age group who would require special consideration during screening and breast imaging for symptomatic presentations. This review have shown that the breast cancer affected 46% of women below the age of 40 years in 2000, that number had dramatically declined to 23% in 2017. Age adjusted incidence and mortality for breast cancer varies with geographical variations. The difference between Far Eastern and Western countries is diminishing but is still remains at fivefold [8]. The breast cancer reported burden may be underestimated. The lack of specialized care units and the weak data bases in developing countries contribute to the reported lower incidences [9]. Despite the reported incidence of breast cancer is emerging in younger females, there are fewer

Table 1: Demonstrates the annual incidence of breast cancer by age 2000 – 2017.

Age/year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average
20-29	0	6%	5%	5%	6%	7%	6%	5%	0%	2%	0%	0%	0%	2%	0%	5%	1%	3%	**3%**
30-39	46%	35%	11%	33%	22%	22%	50%	25%	30%	7%	7%	5%	5%	17%	12%	16%	14%	23%	**21%**
40-49	31%	24%	53%	53%	33%	41%	25%	35%	42%	23%	14%	22%	26%	30%	34%	34%	18%	23%	**31%**
50-59	8%	29%	16%	5%	28%	15%	19%	30%	19%	33%	34%	32%	37%	32%	33%	29%	27%	27%	**25%**
60-69	8%	6%	11%	0%	0%	7%	0%	5%	0%	21%	31%	24%	16%	11%	18%	14%	32%	15%	**12%**
70-79	8%	0%	0%	5%	11%	7%	0%	0%	4%	7%	10%	16%	5%	8%	0%	2%	5%	5%	**5%**
80-89	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	3%	0%	9%	0%	2%	0%	3%	3%	**2%**
80-99	0%	0%	5%	0%	0%	0%	0%	0%	4%	0%	0%	0%	2%	0%	0%	0%	0%	0%	**0%**

reports on breast cancer screening in younger age groups [10]. Breast cancer in younger female as a true fact which had led to a review of the guidelines. The current American Cancer Society Guidelines has included awareness as young as the age of 20 years with screening starting at the age of 40 years and at the age of 30 years for high - risk women [11]. National screening programs in developing countries may not be currently feasible at large scale, therefore, targeted screening of women at highest risk maybe effective [12]. Tailored intelligent and appealing approaches for health education, screening, early detection, and prevention should be considered in developing countries. Despite the observed increased number of breast cancer cases seen in healthcare facilities, when plotted against the total age based population, the incidence of the population affected with breast cancer over 30 years was only 0.8% [13]. This number may appear trivial and may be not support the initiation of national screening program; however, the 26 - fold increase in patients presenting to our institution should encourage breast cancer awareness programs. As expected in this current review the mean age has risen from early forties in 2000 to late the fifties in 2016/2017. This progressive and steady rise in the mean age has confirmed the change in disease pattern. The narrowing the age gap between the developing countries and the western countries was noted. Reports from Africa have suggested that the inaccuracy derived from inappropriate comparison of the mean age at clinical presentation retrieved from medical charts with age incidence data from cancer registries may not be precise [7].

Conclusion

The rapid urbanization in developing countries has inflicted change in disease patterns. Full understanding of the narrowing age gap between the developed and the developing world should document. Strategic approaches to cancer control should be directed to the unique nature of each region.

References

1. Akarolo-Anthony SN, Ogundiran TO, Adebamowo CA. Emerging breast cancer epidemic: evidence from Africa. Breast Cancer Res. 2010;12(Suppl 4):S8.
2. Editorial: Breast cancer in developing countries. Lancet. 2009;374:1077-85.
3. AlJohani B, AlMalik O, Anwar E, Tulbah A, Alshabanah M, AlSyaed A, et al. Impact of Surgery on Survival in Stage IV Breast Cancer. Breast J. 2016;22(6):678-82.
4. Allemani C, Matsuda T, Di Carlo V, Harewood R, Matz M, Nikšić M, et al. Global surveillance of trends in cancer survival 2000–14 (CONCORD-3): analysis of individual records for 37 513 025 patients diagnosed with one of 18 cancers from 322 population-based registries in 71 countries. THE LANCET. 2018;391(10125):1023-75.
5. Key TJ, Verkasalo PK, Banks E. Epidemiology of breast cancer. Lancet Oncol. 2001;2(3):133-40.
6. Adebamowo CA, Ajayi OO. Breast cancer in Nigeria. West Afr J Med. 2000;19(3):179-91.
7. Anders CK, Johnson R, Litton J, Phillips M, Bleyer A. Breast cancer before age 40 years. Semin Oncol. 2009;36(3):237-49.
8. McPherson K, Steel CM, Dixon JM. ABC of breast diseases. Breast cancer-epidemiology, risk factors, and genetics. BMJ. 2000;321(7261):624-8.
9. Ferlay J, Parkin DM, Steliarova-Foucher E. Estimates of cancer incidence and mortality in Europe in 2008. Eur J Cancer. 2010;46(4):765-81.
10. Kerlikowske K, Grady D, Barclay J, Sickles E, Eaton A, Ernster V. Positive predictive value of screening mammography by age and family history of breast cancer. JAMA. 1993;270(20):2444-50.
11. Smith RA, Cokkinides V, Brawley OW. Cancer screening in the United States, 2012: A review of current American Cancer Society guidelines and current issues in cancer screening. CA Cancer J Clin. 2012;62(2):129-42.
12. Anderson BO, Braun S, Lim S, Smith RA, Taplin S, Thomas DB, et al. Early detection of breast cancer in countries with limited resources. Breast J. 2003; 9:S51-9.
13. Maha AH, Hefzi AR, Hamid AW. Rethinking: ideal screening age for breast cancer in developing countries. J Breast Health. 2015;11(3):111-4.