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Morbidity Pattern of Certain Cancers in Chennai City, Tamil Nadu, India: A Review Article.

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ABSTRACT

In recent times, developing countries face the triple burden of diseases among which non communicable diseases is an important component. Among several non communicable diseases, cancers are an important cause of physical, mental and socioeconomic burden to both the individuals and the society. Cervical cancers and breast cancers are two major cancers affecting women and have an impact on the mortality patterns in them. Among the total cases of cervical cancer detected every year, 80% are from the low income countries. In India, National Cancer Registry Programme was started in 1976 and cervical cancer is the third largest cause of cancer mortality. We analyzed the data of Madras Metropolitan Tumor Registry which was established in the year 1981. Breast cancer constitutes 26.07% and cervical cancer about 27.1% of all the cancers among women in Chennai (2005-06). Ductal carcinoma is the predominant type of breast cancer (75.5%). The 5 year overall survival of breast cancer was found to be 67.1% (2001-2006). The mean age at detection of both cancer cervix and breast is 50 years. This is an important key to initiate changes in the National policy towards early detection of cancers among women.

Keywords: morbidity, cancer, non-communicable diseases.

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INTRODUCTION

In the modern era of civilization, developing countries face the 'triple burden' of diseases namely communicable diseases, non communicable diseases and socio-behavioral diseases. Among the non communicable diseases, cancers are on a rampant rise in recent times owing to several genetic and environmental factors, accounting for 8.2 million deaths in 2012 [1]. Of all the cancers among women, cancer cervix is the second most common cancer throughout the world next to breast cancer. Every year 5,00,000 new cases of cancer cervix are detected with 2,50,000 deaths. Amongst the total cases of cervical cancer detected every year, 80% are from the low income countries and 99% of the cancers are caused due to Human Papilloma Virus (HPV) infection with a mortality of 7.5% of all female cancer deaths [2]. Trends in the United States have revealed that approximately cancer cervix incidence accounts to 12% of all the cancers that are detected every year and there has been a significant reduction of incidence of breast cancer by 1.2% per year and mortality due to breast cancer has also significantly dropped by 2%.² The trends in the United Kingdom have shown that cancer cervix is the 11th most common cause of cancer among women and it constitutes 2% of all new cases of cancer detected every year with a crude rate of 10.8 per 1000 population [2]. The rates have decreased since 1980 following the initiation of National Cancer Screening Programme. Following this there was a plateau in the 2000s and there was a further decrease to an incidence rate of 8.4 per 100,000 population. The mortality due to breast cancers in the United Kingdom amounts to 20% of all female deaths due to cancers [2]. Overall, there has been a slow, yet steady shift in the age at detection of cancer cervix to the age group of 24-29 years, owing to the success of the screening programme. With regards to the breast cancer, the crude rates were 154.1 per 1000 populations. In India, National Cancer Registry Programme [3] was started in 1976 and fully fledged data collection began since 1982. In 2004, cervical cancer was the third largest cause of cancer mortality in India with age standardized incidence rate of 22.3 (decrease from 42.3 in 1983) per 100,000 population and 72,600 deaths with a loss of 88 DALYs per 100,000 population. According to International Agency for Research on Cancer estimates, mortality from cervical cancer is estimated to increase by 79% from 74,118 deaths (2002) to 1,32,745 deaths (2025). As far as breast cancer is concerned, it is more common in urban India, and constitutes 25-33% of all cancers in women [2]. Over 50 % of breast cancers are in stage 3 and 4 at the time of detection, indicating the lack of awareness and screening. It has been estimated that there would be 2,50,000 cases of breast cancer in India by 2015 with a 3% increase per year. Chennai city, being the 4th largest metropolitan city in India is rapidly seeing growth and development in all segments. The morbidity and mortality pattern of this city has shown a recent shift from communicable diseases to lifestyle and non communicable diseases of which cancers are an important component. In this study, we aim to analyze the trends in the morbidity and mortality of cancer cervix and breast cancers in Chennai city, based on the data from Madras Metropolitan Tumor Registry which was established in the year 1981 [4]. Breast cancer constitutes 26.1% and cervical cancer about 27.1% of all the cancers among women in Chennai (2005-06). Ductal carcinoma is the predominant type of breast cancer (75.5%). The 5 year overall survival of breast cancer was found to be 67.1% (2001-2006) [4].

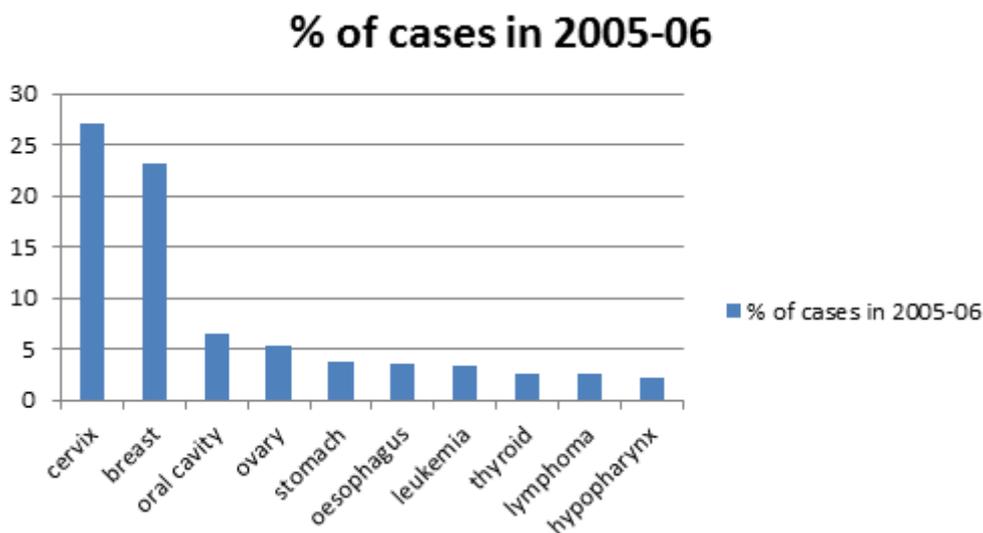
METHODS

Madras Metropolitan Tumor Registry- established in 1981 coherent with National Cancer Registry Programme. The cancer registry, initiated by the Cancer Institute (WIA), Adayar, maintained is thus hospital based which is maintained by regular appraisal of the cancer cases in all the hospitals in the city by the social workers. The two main objectives of the hospital based cancer registry is maintaining detailed information on the patients and also following them up to monitor the prognosis. In this review, we have used the data from the Madras Metropolitan Tumor Registry established by Cancer Institute, Adyar [4].

Observations

The common cancers detected among females is represented below-

Figure 1: Percentage of cancer cases in 2005-06:



Among all the cancers, cancer cervix and cancer breast are the leading cancers among women. This indicates the need to strengthen the detection of cases by primary and secondary prevention methods. The cancers of breast and cervix assume a normal distribution in terms of age at presentation which is between 45-54 years with a median age at diagnosis being 50 years.

Table 1: Prevalence rates

S. no	Type of cancers	Average Annual Rate	Crude Rates	Truncated rates
1	Breast	26.9	29.3	70.2
2	Cervix	21.9	24.8	61.2

Rates per 100, 000 population

Cancer breast

- Breast cancer constitutes 26.07% and cervical cancer about 27.1% of all the cancers among women in Chennai (2005-06)
- Ductal carcinoma is the predominant type of breast cancer (75.5%)
- The 5 year overall survival of breast cancer was found to be 67.1% (2001-2006)
- Majority of the cases of cervical cancer are detected at stage II (27.7%) whereas majority of the cancers of breast are detected at stage III (30.4%)
- The 5 year overall survival of cervical cancer was found to be 62% (2001-2006)

Figure 2: Method of detection – breast cancer

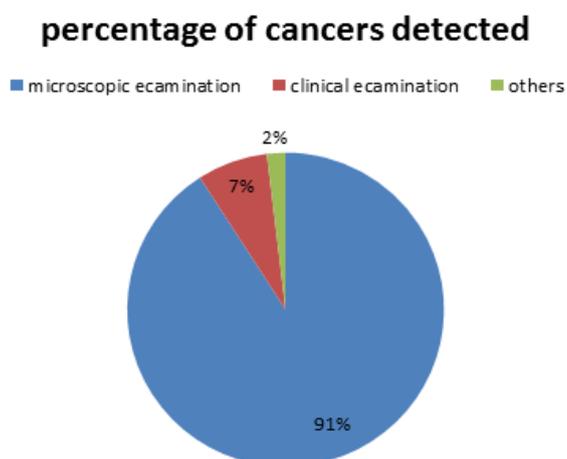
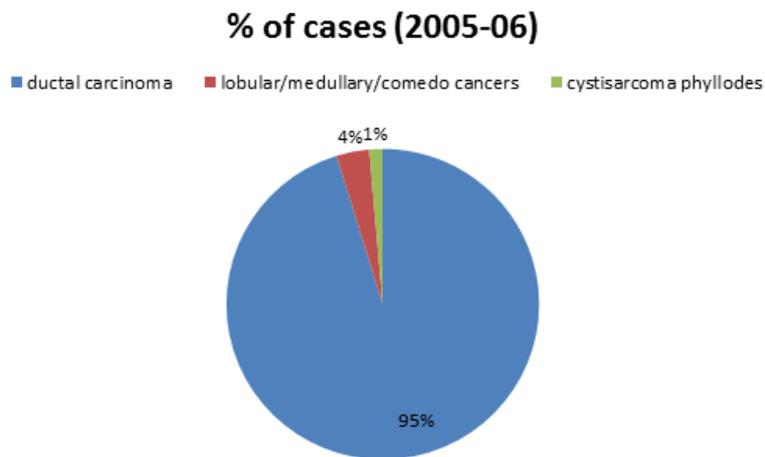


Figure 3: Prevalence of breast cancers by morphology



Cancer cervix

Cancer uterine cervix is the top ranking cancers among all the cancers detected in women with a mean age at diagnosis of 50 years.

The tumor is most commonly detected at stage II (27.7%) followed by stage III (20.1%).

Figure 4: Method of detection of cancer cervix

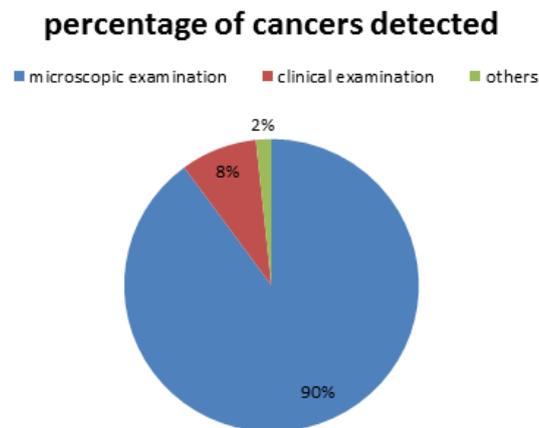
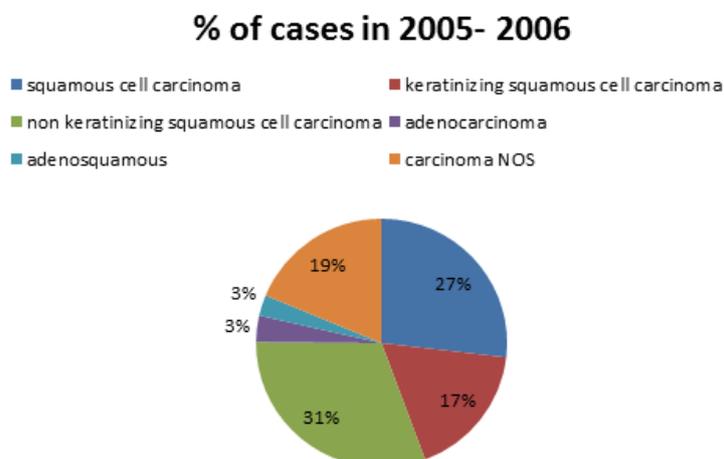


Figure 5: Prevalence of cervical cancer- by morphology





DISCUSSION

It is evident from the above data that cancer cervix and breast are important issues in the current scenario related to women's health. This also emphasizes the need for focused programs to address these issues. While the data of United Kingdom reveal a mild shift in the age at detection of cancers to 25-35 age group, in India, the situation is otherwise. The mean age at detection of both cancer cervix and breast is 50 years. This is a key finding and has many implications. From this finding, one can superficially infer that the difference in the age at detection could be due to genetic and morphological make up owing to ethnicity and racism. On the other hand, a deeper insight into this finding will reveal that the aggressive and rapid screening programmes targeting younger population has resulted in more cases being detected at a younger age in the western world. This concept is further emphasized by the fact that the stage at detection is nevertheless higher in India (stage II and III) as compared to the United Kingdom. Looking at the 5 year survival rates, on an average, both the cancers have a 5 year survival rate of 100% for stage I and 93% for stage II [5]. This could be effectively increased further if the age and stage at detection of the cancers are much lower. At this juncture, it is pertinent to look into the screening programmes offered in the United States and in the United Kingdom. In America, the American Cancer Society, a national body sets up guidelines to the practitioners and the public on individual cancers and these guidelines is uniformly followed throughout the country.

Similar is the situation in the United Kingdom where the NHS Screening Program, which is a nationwide screening programme systematizes the screening for various cancers. These systems can be taken up as a model and replicated in India, as this ensures uniformity in the screening campaigns although there are minor issues related to logistics and resource allocation.

CONCLUSION

India, being a rapidly growing population, is fast becoming hub of non communicable diseases. A comprehensive and sound health care delivery system has to be in place to address the problem. A key component of health care delivery system is the prevention and preventive measures are the most economic solutions to non communicable diseases, more so for cancers. Screening for cancer cervix and breast has to be carried out in a systematic and standardized format, and the population must be targeted at an earlier age in order to achieve lesser mortality, improved survival and better quality of life.

REFERENCES

- [1] <http://www.who.int/mediacentre/factsheets/fs297/en/>.
- [2] http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx.
- [3] http://ncrpindia.org/NCRP_Login.aspx.
- [4] Hospital Cancer Registry. National Cancer Registry Program. Indian Council of Medical Research. Biennial Report. 2005-06. Cancer Institute WIA, Chennai, India. October 2008.
- [5] <http://www.cancer.org/cancer/breastcancer/detailedguide/breast-cancer-survival-by-stage>