COMMENTARY

India Can Do More for Breast and Cervical Cancer Control

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Abstract

In India breast and cervical cancers are the commonest cancers and have high annual age-adjusted rates in all the registries. In order to have significant improvement in cancer control in India there needs to be a disproportionate focus on women's breast and cervical cancer. In most women cancer has spread at the time of presentation. Simple, inexpensive and cost-effective screening methods are available for both the cancers and compliance to investigation and treatment has been reported to be more than 70%, and more than 80%, respectively for those diagnosed. Screening on a large scale though cost-effective will be challenging economically as well as programmatically. However, there is a need to strategize and select appropriate high-risk groups, have standardized guidelines for screening and treatment, and concentrate on what is do-able.

Key Words: Women's health - India - cancer cervix - cancer breast

Introduction- Cancer Situation

Cancer is among the ten leading causes of death in India (Central Bureau of Health Intelligence, 2006). The estimated incidence in the country is 800,000 cases and prevalence is about two million cases. About 25% increase is expected by the year 2015 (Nair et al., 2005). Breast and cervical cancers are the commonest and have high annual age-adjusted rates (AAR) in all registries (Table 1). Together they constitute more than 40% of cancer cases in women and 21% of the total cancer cases in both population-based and hospital-based registries in the period 2001-03. The estimated number of new cases of breast cancer is 91,000 and of cervical cancer is 113,000, annually (Nair et al., 2005). The estimated five-year survival rates for breast and cervical cancer are 47.7% and 46.2%, respectively, much lower than in developed countries (It was 73% and 62%, respectively, in Europe for the same period) (Yeole et al., 2004). Survival is worse for older women.

In most patients cancer has spread at the time of presentation - breast cancer was localized in only 25% and cervical cancer was localized in only 10% of the patients (National Cancer Registry Program, Hospital based cancer registries, 2006). Survival rates improve drastically with early detection.

Cervical Cancer

There are reports that cervical carcinoma is showing a declining trend in India in some registries and is being attributed to increase in the age of marriage, improvement in personal hygiene, etc (Murthy et al., 2005; Sarin et al., 2005; National Cancer Registry Program, Population based cancer registries, 2006; Yeole et al., 2008). However, it is important to be cautious: One, despite the declining trend in AAR, the actual numbers are on the rise because of a general increase in the population; two, the decline has been noticed mostly in the younger age groups (Murthy, 2005); three, about a fifth of the global cervical cancer cases are still in India (Ferlay, 2004); four, the reasons for decline in reported numbers could be due to reasons other than decrease in incidence (Vallikad, 2006), for example, poor accessibility or affordability for treatment.

Introduction of HPV vaccine in the market has raised hopes. The HPV vaccine has been considered as more effective than screening and it is estimated that pre-adolescent vaccination alone (with at least 80% coverage and 100% vaccine efficacy) could reduce incidence by 44% (range 28-57%) (Diaz, 2008). However, at a prohibitive cost of Rs. 2800 per dose for three doses (News.webindia123.com, 2008) it will be sometime before it is taken up in our country where even the free-of-charge routine immunization coverage is less than 50%. Emphasis would, thus, continue to be on screening in the coming years.

Screening with pap smear has not been considered feasible on a large scale due to limited resources but according to modeling studies screening with visual inspection with acetic acid (VIA) in one or two clinical visits could be a cost-effective alternative to conventional three-visit cytology-based screening program in resource poor settings. One screening at the age of 35 years reduced

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the lifetime risk of cancer by approximately 25-36%, and cost less than $500 per year of life saved. Relative risk of cancer declined by additional 40% with two screenings at age 35 and 40 (Goldie et al., 2005). VIA is a simple and inexpensive alternative to Pap smear cytology. Laboratory support is not required, test results are available immediately and para-medical workers can carry it out with two day training at the level of primary health centre (Vallikad, 2006). In a community-based study, VIA by trained health workers was accepted well by the rural women as a screening procedure (Basu et al., 2006). In the national workshop on control of cervical cancer in India, VIA was recommended as the immediate option for the introduction of cervical cancer control initiatives as part of the district cancer control program in 54 districts in India (Gupta et al., 2001).

Breast Cancer

There is an increasing trend in rates of breast cancer in the urban population of the country (Yeole and Kurkure, 2003; Satyanarayana and Asthana, 2008). A unique feature is that the mean age is less than 50 years (National Cancer Registry Program, Hospital based cancer registries, 2006) lower than that in the developed countries (Vinod et al., 2005).

Screening by mammography is a standard practice in western countries but besides the cost, its usefulness is potentially limited in India as there is less clear evidence on harm and benefits of screening by mammography in women less than the age of 50. Breast self examination has not been found to be useful for screening to decrease mortality (Thomas et al., 2002). Screening by clinical breast examination (CBE) alone has not been demonstrated by randomized controlled trials to reduce mortality.

However, it is believed that given the late presentation in India, 55% reduction in mortality from breast cancer can be achieved over a five-year period by detecting tumors of three centimeters in size in the community (Mittra et al., 1989). Okonkwo et al, using microsimulation models, have concluded that CBE performed annually between the ages of 40 and 60 in India would be as efficacious as biennial mammography screening for reducing breast cancer mortality while incurring only half the net costs, and that a screening programme with biennial CBE would be cost-effective in India according to the criteria for cost-effectiveness laid down in WHO Commission on Macroeconomics and Health (Okonkwo et al., 2008).

For any screening to succeed, a high level of compliance is necessary for both initial screening as well as for subsequent follow up for investigations and treatment. In a trial in Mumbai where paramedical workers screened women aged 35-64 for breast cancer and cervical cancer by CBE and VIA, compliance to investigation has been reported as 73%; compliance to treatment completion is reported as 95% for those diagnosed with breast cancer and 86% for cervical cancers and 81% for cervical pre-cancers (Dinshaw et al., 2003; 2007a; 2007b; Nene et al., 2007; Moss et al., 2008).

What is Being Done? Efforts of National Cancer Control Programme)

The National Cancer Registry Program is increasing the number of registries, which will lead to better understanding of epidemiology and therefore, better planning of control activities. It supports NGOs in organizing camps for early detection of cancers and creating awareness among community. Rs. 8000 per camp is provided for this purpose. To the regional cancer centers, which are the tertiary care centers, the program provided Can Scan software package for early detection of breast cancer, 100,000 pap smear kits and orientation training to cytopathologists for quality assurance of pap smear tests. Under the Modified District Cancer Control Programme a one-year project was carried out through the regional cancer centers in rural areas of four states. Local women with secondary level education were hired as non-communicable disease (NCD) workers. For a monthly honorarium of Rs. 500 per month, they contacted about one million rural women in the age group of 20-65 years, filled questionnaires on demographic profile, accessibility to primary health care, knowledge, attitude and practices about cancer, diabetes, blindness, contraception, tuberculosis, malaria, and other common diseases. They created awareness among women about personal hygiene and harmful effects of tobacco, common cancers, their early symptoms and primary prevention and taught breast self-examination (Gupta et al., 2001; Ministry of Health and Family Welfare, 2005). It remains to be seen if NCD workers would be able to carry out these wide-range of activities in programme conditions at an honorarium of Rs. 500 or its equivalent or instead they need to focus on a select few. Evaluation, supervision and accountability are other features to be considered.

What Can Be Done?

Biennial CBE for screening cancer breast and once in a lifetime VIA for screening cancer cervix seem to be cost-effective strategies. VIA has been found to be feasible in field conditions. Paramedical workers have been shown to be effective in carrying out screening though the true effect remains to be seen under program conditions. At least it seems possible that screening activities can be carried out without waiting for development of cytological/laboratory support at the district level.

Despite the cost-effectiveness, implementing screening is an expensive proposition. According to Okonkwo et al, in terms of proportion of gross national incomes, it is more challenging economically to introduce CBE in India than to introduce mammography screening in The Netherlands (Okonkwo et al., 2008). However, that emphasizes the need to strategize. It is important to remember that the screening costs are only a fraction of the total costs of diagnosis and treatment of cancer, not to mention the social costs of the death of a woman. A commitment to cancer control entails commitment to screening.

Traditionally, reporting is 'most common cancer in men and most common cancer in women.' This hides the

fact that breast and cervical cancers are the commonest. Intensive tobacco control efforts would prevent 30% of the future burden of cancer but will do little for cancers in women, the largest section of sufferers. There is a need to have standardized guidelines for screening and treatment of cancer breast and cervix. There is a need to have goal-oriented leadership; need to strategize and concentrate on what is do-able. Perhaps, concentrate on high-risk groups and screen for breast cancer in metropolitan cities like Chennai, Delhi, Mumbai and Bangalore and screen for cervical cancer in rural areas.

If cancer control is a legitimate public health program then here is an argument: in order to have a significant improvement in the overall cancer control in India a disproportionately higher attention needs to be given to women's breast and cervical cancer.

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