
COMMENTARY

Dilemma of Cancer Screening in Pakistan

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Abstract

In the scenario of limited resources for implementation of screening programmes in Pakistan, the only practical option for early detection is through mass education about cancers, their risk factors, screening modalities and presentation symptoms.

Key Words: Pakistan - screening - education

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Introduction

Cancer is a major source of mortality and morbidity in all parts of the world. According to the cancer data base of WHO International Agency for Research on Cancer (GLOBOCAN), there are over 10.8 million new cases of cancer annually (5.0 million in developed countries; 5.8 million in developing countries) worldwide and more than 6.8 million cancer deaths (Ferlay et al., 2004). It is estimated that there will be 15 million new cancer cases every year by 2020, and 10 million cancer deaths (Bhurgri, 2004; NCCP, 2000). Age standardized incidence rate (ASIR) per 100,000 of population of all cancers worldwide is 161.5 among females and 209.6 among males (Ferlay et al., 2004).

Pakistan, like other developing countries of the region, faces a double burden of diseases with a significant incidence of cancers and a rising trend in risk factors' profile and incidence itself (Ferlay et al., 2004; Bhurgri et al., 2000). The precise incidence, mortality rates, number of new cancer cases and number of deaths annually for Pakistan is not known. WHO estimate puts the figures at 61624 incident cases and 42684 cancer deaths annually in males and 75095 incident cases and 43188 deaths annually in females (Ferlay et al., 2004). Estimate on the basis of Karachi Cancer Registry (KCR) data puts the figures at 138343 incident cancer cases for males and 135054 for females, approximately twice the number cited by WHO. Age Standardized Incidence Rate (ASIR) of all cancers combined in Karachi South, a representative population of Pakistan, is 204.1 per 100,000 among females and 179.0 per 100,000 among males as per KCR estimates (Bhurgri, 2004). Breast cancer, the most

common malignancy in Pakistan has an ASIR of 61.9 per 100,000 among females of Karachi South District (Bhurgri, 2004). This is the highest reported incidence rate in any Asian population after the Jews of Israel (Bhurgri et al., 2000). The incidence of oral cavity cancer in Karachi South District of Pakistan is the highest in the world (Bhurgri, 2005).

Comparison of the pattern of cancer epidemiology of Pakistan and US reveals a much higher proportion of the malignancies of oral cavity, larynx, pharynx, esophagus, cervix and liver in Pakistan. On the other hand cancers of prostate, colorectal, uterus and melanomas make a bigger proportion of malignancies in US (Ferlay et al., 2004). This contrast in the cancer epidemiology patterns of the two countries can be attributed to different risk factor profile, scarcity of screening interventions and lack of public awareness among the cancers themselves and about their presentations in Pakistan. In terms of reducing mortality, screening methods seem to be more effective in the cancer pattern of US and other developed countries. For example, higher proportion of colorectal cancer in US can be detected by screening and treated at an earlier stage thus reducing the mortality (Zoorob et al., 2001; ACS, 2005a). On the other hand, Pakistan has a higher proportion of oral cavity cancer, which has not shown to reduce mortality through screening (Zoorob et al., 2001).

In general, screening and treatment requires a bigger bulk of national resources than prevention and palliation (Ferlay et al., 2004). Cervical cancer incidence and mortality has decreased dramatically in US owing to the Pap test, which has the ability to diagnose the disease in pre-cancerous stage. In 2000, 82% of US females aged 25 and older had got a

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Pap test within past 3 years (ACS,2005). A screening intervention of this magnitude is practically impossible in a low to medium resource country like Pakistan, with an annual per capita health expenditure of \$76 as compared to Japan and UK with an annual per capita health expenditure of \$2009 and \$1774, respectively (Ferlay et al.,2004). So even when the screening might be effective as in case of breast and cervical cancers, the mortality reduction is impractical due to the lack of resources in a developing country to implement such interventions. Moreover, interventions to reduce risk factors and to screen for cancers cannot be successful without the participation of the community, which is directly related to their knowledge about the disease. Considering the fact that less than 50% of the population of Pakistan is literate, the prospects of having good knowledge about the cancers seem poor (UNICEF, 2005). A recent study assessing knowledge of a Karachi population regarding different risk factors of head and neck cancers classified at least 79% as having poor knowledge (Khawaja et al., 2005).

In Pakistan, a large proportion of cancers present at an advanced stage. In a recent analysis of KCR, it was found that as many as 60.4% of oral cavity cancers and 78.1% of pharyngeal cancers presented with local or distal spread at the time of presentation (Bhurgri et al., 2003). This late presentation of cancers has severe implications as to their prognosis. For instance among females, the age-standardized incidence rate of oral cavity cancer is 5.1 in the US, while the age-standardized mortality rate (ASMR) is 0.8. On the other hand in Pakistan, the ASIR and ASMR are 14.7 and 8.2, respectively (Ferlay et al.,2004). In the absence or lack of effectiveness of screening programs against oral cavity cancers, the much higher “mortality to incidence ratio” in Pakistan can be attributed to the late presentation of the disease.

Lack of awareness about cancers themselves and their signs and symptoms, is one of the major causes of delayed presentation. In 1947, the American Cancer Society began its public education campaign about the signs and symptoms of cancers with seven danger signs of cancer, which were later modified to acronym CAUTION [Change in bowel and bladder habits, A sore that doesn't heal, Unusual bleeding or discharge, Thickening or lump in breast or elsewhere, Indigestion or difficulty in swallowing, Obvious change in wart or mole, Nagging cough or hoarseness] (ACS,2005b).

In the scenario of limited resources for implementation of screening programmes in Pakistan, the only practical option for early detection is through mass education about the cancers, their risk factors, screening modalities and their presentations.

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