

RESEARCH COMMUNICATION

Estimating the Burden of Head and Neck Cancers in the Public Health Sector of Pakistan

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Abstract

This study was designed to establish the burden of head and neck cancers (HNCA) in public sector based cancer centres of Pakistan. Data were obtained from the central body governing all the cancer centres in the country. The frequency of treated HNCAs out of the total body cancers treated across Pakistan was found to be 14.5%. Highest prevalence rates amongst all cancers were noted in Sind, notably in Karachi and Jamshoro, followed by Multan in Punjab and as much lower frequency in Peshawar in the North West Frontier Province. This variation presumably reflects levels of betel quid consumption but more data are needed to be gathered in a comprehensive way if the findings are to be applicable for improvement of the national cancer control program.

Key Words: Head and neck cancers - frequency - cancer registry data - Pakistan

Asian Pacific J Cancer Prev, 9, 529-532

Introduction

Head and neck cancer (HNCA) ranks sixth in all body cancers (Argiris et al., 2008) with a half million new cases diagnosed every year (Goldenberg et al., 2004). Oral cancer is the most common cancer of the head and neck region (Argiris et al., 2008). Of the total worldwide oral cancer cases, 40% occur in South East Asia (Ahluwalia (2005). Oral cancer is the second most common malignancy in Pakistan after carcinoma lung in males and carcinoma breast in females (Bhurgri, 2005). The majority of epithelial head and neck cancers are related to lifestyle of the patients and thus, are regarded as preventable oral disease. Healthy lifestyles and public health action by governments and health practitioners can prevent one third of these cancers worldwide (Scully and Boyle, 2007).

Implementation of any preventive programmes at the population level needs comprehensive assessment of the disease burden in a specific population for best allocation of resources, particularly in developing countries because of financial constraints. To assess the burden of cancer in any country the need for a national cancer based registry is unquestionable. Most of the countries in developed and developing world have established cancer based registries of their own (Bhurgri, et al., 2006). Unfortunately, Pakistan has been unable to develop and sustain a nationwide general population-based cancer registry. The data available on epidemiology of head and neck cancers

in our country are based on reports from few registries (Bhurgri et al., 2006; Shaukat Khanum Memorial Cancer Hospital & Research Centre Cancer Registry, 2008) most of which are private and institution based. We conducted this study to find out the frequency of head and neck cancers in Pakistan by collecting data from the entire public health sector based cancer centres spread across the country.

Materials and Methods

Data regarding prevalence of head and neck cancers were obtained from the central body governing all the public sector based cancer centres across Pakistan from Jan 2005 to Dec 2006. Data reported the frequency of HNCA from four cancer centres based in the province of Punjab, three in Sindh, two in NWFP, one in Baluchistan and one in Islamabad.

The data received did not include demographic details of the patients, nor were any details available on histological diagnosis and patient follow-up. It mainly concentrated on the number and sites of cancer cases treated at the specific centres during the study period.

Results

It can be seen in Table 1 that the overall prevalence of Head and Neck cancers out of the total cancers treated in

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2005 and 2006 was 14.5%. The highest prevalence was found to be 22.6% in the province of Sindh followed by Punjab, Islamabad, Baluchistan and NWFP. The data from eleven centres are tabulated in Table 2. The highest frequency was reported from Jamshoro, Sind, which is an indicative of a high prevalence among the rural population of Sind.

The age and gender distribution could not be determined. Data regarding type of head and neck cancer and frequency by site could also not be obtained. We could not find any data related to habits and general lifestyles of the cancer patients from the records.

Discussion

To our knowledge, this is the first time that an attempt has been made to report the burden of head and neck cancers across Pakistan, by collecting data through Public Sector Cancer Centres spread throughout the country. The findings point to an intriguing picture of variation demanding elucidation of underlying causes. Pakistan has been unable to establish a National Population-based Cancer Registry. Of the three cancer registries currently functional in Pakistan, one is target population based and two are institution based. The population-based cancer registry of Pakistan is Karachi Cancer Registry (KCR), a voting member of International Association of Cancer Registries (IACR). It is based only on the population of South of Karachi, Sindh; which is taken by the registry as the sample population of Pakistan (Bhurgri et al., 2006). Institution-based registries that have the IARC membership include Shaukat Khanum Memorial Cancer Hospital & Research Centre (SKMCH&RC), Lahore and Aga Khan University Cancer Surveillance for Pakistan (ACSP), Karachi.

The frequency of head and neck cancers cases among all cancers treated was higher in the present evaluation than that reported by SKMC and ACSP. The prevalence reported from SKMCH&RC was 6.4% in 2005 and 5.9% in 2006. Prevalence reported from Agha Khan Hospital till 2004 is 11.6% (Ahmad et al., 2007). KCR reported the incidence rate per 100,000 of HNCA to be 22.5 in males and 20.4 in females, which is similar to the frequency of cancers, reported from the province of Sind in the present study (22.6%).

Geographical difference between the percentages of HNCA within Pakistan can be attributed to the variable lifestyles between provinces. Smoking is prevalent throughout the country (Adil et al., 2005) but habit of betel quid chewing which is a known risk factor in causing oral cancer is most prevalent in Karachi and Sind, which may be the cause of increased frequency of head and neck cancers in this area. Betel quid has been attributed as the major risk factor for HNCA in Sri Lanka where the prevalence out of all reported cancers is 16.8% (Ariyaratne, 2000). Reports from India regarding burden of HNCA show a variation of 9.8% to 42.7% (Bhattacharjee et al., 2006) which corresponds to the geographical variation found in this study.

The biggest limitation of this study that does not allow true comparisons to be made with the national and

Table 1. Province Distribution of Reported Head and Neck Cancers

	Geographical Area	Prevalence
1	Sind	22.6%
2	Punjab	13.4%
3	Islamabad	13.1%
4	Baluchistan	11.4%
5	NWFP	8.6%
	National average	14.5%

Table 2. Frequency of Head and Neck Cancers at Public Health Sector Cancer Centres, Pakistan

Name of centre	No. Cancer Patients	Head and Neck No.	(%)
KIRAN Karachi, Sind	5,189	1,179	22.7%
NIMRA Jamshoro, Sind	4,280	1,235	28.9%
LINAR Larkana, Sind	2,550	308	12.1%
INMOL Lahore, Punjab	5,965	769	12.9%
BINO Bahawalpur, Punjab	2,276	284	12.5%
PINUM Faisalabad, Punjab	46	3	6.5%
MINAR Multan, Punjab	1,405	242	17.2%
INOR Abbotabad, NWFP	1,742	185	10.6%
IRNUM Peshawar, NWFP	10,313	854	8.2%
CENAR Quetta, Baluchistan	2,349	268	11.4%
NORI Islamabad, Federal Area	5,292	691	13.1%
TOTAL	41,407	6,018	14.5%

international data is the lack of complete information related to head and neck cancer cases. It is because of limited availability and inadequate access to the data of individual cancer centres. We do not know that the centres have categorized these tumors according to International Classification of disease for Oncology (WHO, 1990) or include any malignancies that arise in the head and neck region. Therefore we cannot reliably compare the frequency of HNCAs found in our study with that reported from the well kept national and international cancer registries. This paucity of available data is not because the basic information about the patient and his disease is not collected at the cancer centres but because of the fact that the filing and data collection system within and between centres is not standardized. All the Public Sector based Cancer Centres collect basic information of all the patients regarding their age, sex, ethnicity, lifestyle, socioeconomic status, site and histology of the tumor, final diagnosis, stage of disease and disease outcome for survival which are the basic data required for establishing any cancer registry, but these data unfortunately are not being properly maintained.

It is therefore strongly recommended that an information gathering and retrieval system be established and standardized within all the Public Sector based Cancer Centres in Pakistan, leading to formation of Public Sector Based Cancer Registry in the country. In a country with limited resources this is the most cost effective method by which reliable information can be obtained regarding the cancer burden in Pakistan. Such data along with findings of other cancer registries working in the country can then be used for executing and monitoring the National Cancer Control Program (NCCP).

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