

RESEARCH COMMUNICATION

Awareness of Oral Cancer and Precancer Among Patients Attending a Hospital in Sri Lanka

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Abstract

Objective: To assess awareness about oral cancer and precancer among patients attending for dental treatment at a University Dental hospital.

Methods and materials: A self-administered questionnaire was used to collect information from 410 randomly selected outpatients attended the Dental Hospital (teaching), Faculty of Dental Sciences, University of Peradeniya, Sri Lanka. The questionnaire included questions to ascertain information on socio-demographic parameters, awareness of oral cancer and precancer, habits of betel chewing, smoking and alcohol consumption.

Results: Ninety five percent of the respondents were aware of the possibility of occurrence of cancer in the mouth while only 44.9% (n=184) were aware about precancer. Of the 390 individuals who were aware of the existence of oral cancer, 80.7% were knowledgeable about the causal relationship between betel chewing habit and oral cancer. Forty-seven and 17 per cent were aware of links with tobacco smoking and alcohol consumption, respectively. However, out of those who had knowledge of oral cancer, 18 % (n= 69) were not knowledgeable about associations with habits.

Conclusions: This survey revealed that the patients attending the hospital were well informed about oral cancer. However, awareness about precancer was relatively low. Knowledge about the causal relationships with tobacco smoking and use of alcohol was low compared to that for betel chewing.

Key Words: Awareness - oral cancer - oral precancer - betel chewing - tobacco

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Introduction

Oral cancer incidence is high in many areas of the world (Johnson, 1991; Boyle et al., 1993) and the magnitude of the problem is particularly great in South & South East Asian countries including Sri Lanka (World Health Organization, 1984). On a global scale oral and pharyngeal cancers have been rated as the 6th most common cancer in men and 9th in women (Parkin et al., 1999). The majority occur in developing countries of the South & South East Asian region.

Although the term oral cancer encompasses all malignant tumors that originate from the oral tissues, 90% of these are squamous cell carcinomas confirmed histologically. The habit of tobacco use has been implicated as the most important factor resulting in these tumours. The commonest way of tobacco use in South and South East Asia is in the chewing form incorporated into the betel quid (World Health Organization, 1984), producing oral cancer and precancer (Hirayama, 1966; Metha et al., 1969; Gupta et al., 1980; Ekanayake and Mendis, 1995; Chiba, 2001). Betel leaves

(leaves of betel vine), areca nut, lime and tobacco are the main ingredients of betel quids chewed in Sri Lanka. The risk of developing oral cancer is 10-20 times greater in tobacco users compared to non-tobacco users and the risk increases with the increase of frequency and duration of betel chewing (World Health Organization, 1984). Oral cancer is a preventable disease and cessation of such habits significantly reduces the risk of development within 5-10 years (Johnson and Bain, 2000). In addition, excessive consumption of alcohol and poor nutrition, especially iron, vitamin C and A deficiency, are additional contributory factors in the pathogenesis of oral cancer (Johnson and Warnakulasuriya, 1993).

Despite the numerous advances which have taken place related to cancer therapy and rehabilitation, the prognoses of the affected subjects have not improved over the years. However, the natural history of oral cancer and pre-cancer provides some encouraging evidence that early detection and management of small cancers of certain sites such as tip of the tongue and lip results in a better prognosis

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compared to the outcome with neoplasms occurring elsewhere in the head and neck region: particularly the posterior 1/3 of the tongue and oropharyngeal region. Perhaps due to lack of awareness (Boyle et al., 1993) affected individuals do not seek treatment at early stages of the disease (World Health Organization, 1984).

Considerable expenditure has to be borne by both the patient and the state health services to implement advanced treatment and rehabilitation. To the best of our knowledge no work has hitherto been published in relation to the awareness of oral cancer and precancer in Sri Lanka. Therefore, a survey was carried out to ascertain the situation in a hospital-based patient population.

Materials and Methods

In order to assess the awareness of oral cancer and precancer, as well as its causative factors, especially with regard to betel chewing, smoking, alcohol use and availability of treatment options, a questionnaire type survey was carried out among outpatients attending the Dental Hospital (teaching), Faculty of Dental Sciences, University of Peradeniya, Sri Lanka. Subjects (n=410) were randomly chosen and a self-administered questionnaire was given them to fill in while they were waiting for treatment.

The questionnaire was pre-tested and necessary alterations were done before administration to the 410 subjects. The questionnaire consisted of relevant questions to ascertain socio-demographic information, awareness of oral cancer and precancer, and betel chewing, smoking and alcohol habits. Data were analyzed using SPSS version 10 and the chi-squared test was employed to compare groups.

Results

The study population consisted of 250 females and 160 males with an average age of 32.3 years (range 14-83 years). A summary of socio-demographic data is given in Table 1. In terms of education, almost all the subjects (99.3%) had some level of formal education (Table 2). Three hundred and seventy six (91.7%) individuals had health education during some stage of their life and the various sources from which they acquired knowledge are summarized in Table 3.

Ninety five percent of the respondents were aware that cancer could occur in the mouth and gender did not influence this awareness ($\chi^2=1.738$, $df=1$, $P=0.18$). However, only 44.9% (n=184) knew of the existence of an entity called oral precancer, again with no gender difference ($\chi^2=1.396$, $df=1$, $P=0.237$). The awareness about oral cancer did not significantly differ among various age groups ($\chi^2=6.40$, $df=5$, $P=0.269$). The greatest awareness about precancer was found in the 25-34 age group (58.4%) while the lowest (30%) was in the over 65-year age group and here the variation was significant ($\chi^2=13.41$, $df=5$, $P=0.020$).

In determining the source of information about oral cancer and precancer, it was found that the mass media had played a significant role (Table 4). It was also evident that

Table 1. Socio-demographic Data for the Survey Subjects

	Number	Percentage
Gender		
Male	250	61.0
Female	160	39.0
Age		
14-24	158	38.5
25-34	109	26.6
35-44	66	16.0
45-54	40	9.7
55-64	27	6.6
Above 65	10	2.4
Civil status		
Married	191	46.6
Single	219	53.4

the awareness of oral cancer was greater among those with the highest levels of education.

A question was directed to ascertain the awareness about the link between oral cancer and precancer with oral habits. Of the 390 individuals who were aware of oral cancer, 80.8% were knowledgeable about the implications of tobacco use in the form of betel chewing in producing oral cancer and precancer. Forty-seven and 17 per cent were aware of the associations with tobacco smoking and alcohol consumption, respectively.

Only 12.2% of the study sample had the betel chewing habit and they chewed betel for an average period of 71.4 weeks. Out of 50 respondents who chewed betel, 32% used betel quid with all ingredients (betel leaf, areca nut, tobacco and lime) while 44% chewed without tobacco. Their mean frequency of chewing was 4 quids per day. Only 8.3% of the individuals smoked tobacco and 7.8% consumed alcohol. When the betel chewing, smoking and alcohol habits were cross tabulated with the awareness of oral cancer (Table 5) and precancer (Table 6), no statistically significant differences were found between those who practiced the habit and those who did not.

A question was asked to assess the awareness of treatment options and outcomes. Of the 390 individuals who were aware of oral cancer, 88.7% mentioned that early detection

Table 2. Level of Education of the Survey Subjects

	Number	Percentage
No school education	3	0.7
Maximum up to grade 5 at school	40	9.8
Maximum up to grade 10	184	44.9
Up to advanced level examination with or without higher education	183	44.6

Table 3. Sources of Health Education for 376 Individuals of the Survey Sample

	Number	Percentage
From school	217	57.7
News papers	7	1.9
Television or Radio Programs	11	2.9
Other sources such as posters and banners	5	1.3
Various combinations of the above	136	36.2

Table 4. Details of Sources of Information About Oral Cancer

	Number	Percentage
From family members	14	3.6
From friends	6	1.5
From family medical practitioner	8	2.1
From family dental surgeon	44	11.3
From midwives	6	1.5
Newspapers	50	12.8
Television and radio programs	69	17.7
Others	7	1.8
Various combinations of the above	186	47.7
Total	390	100.0

would give a better treatment outcome. However, 5.9% were not aware of treatment modalities available and the remainder (5.4%) had the view that oral cancer is untreatable.

Discussion

In Sri Lanka oral and pharyngeal cancers are the commonest out of all body site cancers with an incidence 10.99/100,00 for men and 4.37/100,000 for women (National Cancer Control Programme, 2002). This is a major public health problem with a heavy impact on the country’s economy. As evident from this survey, over 90% of our patients were aware of the existence of an entity called oral cancer. However, a population-based study in United Kingdom found that only 56% were aware of the existence of oral cancer (Warnakulasuriya et al., 1999). Since our study was limited to hospital based patient population, it is difficult to project these findings to the general population.

In South Asia, the majority of squamous cell carcinomas are preceded by clinically distinct precancerous lesions or conditions caused by tobacco or areca nut chewing habit whereas in Europe and other parts of the western world most of the carcinomas arise de novo (Johnson et al., 1993). Early intervention can prevent precancer from being transformed

into malignancy (Laskin, 1993). In this context it is important to note more than half (55.5%) of the respondents were not aware of the existence of precancer. This piece of information is an eye opener to the public health personal of this country and points to the dire need for educational programs to enlighten the public about this dreadful disease.

Betel quid chewing has deep-seated links to social and cultural practices in modern as well as medieval Sri Lanka and hence it is a difficult task to motivate individuals to quit the habit. Awareness of the causal relationship of tobacco in the betel quid and occurrence of cancer in the study population was high. However, knowledge about such a relationship between tobacco use in the form of smoking and oral cancer was poor, which was also the case for alcohol use. In a population based study in UK, 76% were found to be aware of the cancer risk with tobacco use (Warnakulasuriya et al., 1999). Their awareness about the etiological role of alcohol consumption with oral cancer was similar to the present study.

Treatment of precancerous lesions and cancers is more effective if they are detected at early stages when they are small. In developing countries, more than 50% of oral cancers are detected only after they have become advanced. Cancers in the advanced stage are more painful, disfiguring and the treatment necessary is radical and expensive with a low survival rate (World Health Organization, 1984). In the present study, 88.7% of the population were aware that early detection gives a better treatment outcome. Although this is fairly high figure for a developing country, 436 deaths were reported in the year 1996 due to oral cancer (National Cancer Control Programme, 2002). High mortality due to cancer is largely related to delay in diagnosis or not seeking advice regarding avenues of treatment and prevention. The present survey revealed that 5.9% of the population was not aware of the possibilities of treatment and 5.4% believed that there is no treatment available for oral cancer. This may lead to a “loss of hope” type situation resulting a delay in seeking treatment or the patient may not seek treatment at all.

Table 5. Distribution of Awareness about Oral Cancer Among Individuals with Various Habits

	Betel chewing				Smoking				Alcohol			
	Yes	No	X2	P	Yes	No	X2	P	Yes	No	X2	P
Aware	48 (96%)	342 (95%)			31 (91.2%)	3 (8.8%)			31 (96.9%)	359 (95%)		
Not aware	2 (4%)	18 (5%)	0.095	0.758	3 (8.8%)	17 (4.5%)	1.244	0.265	1 (3.1%)	19 (5%)	0.230	0.635

Table 6. Distribution of Awareness about Pre Cancer Among Individuals with Various Habits

	Betel chewing				Smoking				Alcohol			
	Yes	No	X2	P	Yes	No	X2	P	Yes	No	X2	P
Aware	25 (50%)	159 (44.2%)			13 (38.2%)	171 (45.5%)			15 (46.9%)	169 (44.7%)		
Not aware	25 (50%)	201 (55.8%)	0.604	0.437	21 (61.8%)	205 (54.5%)	.661	0.416	17 (53.1%)	209 (55.3%)	0.056	0.813

Though manpower is a limiting factor, opportunistic screening could afford early detection leading to a greater survival and less radical treatment (Warnakulasuriya and Johnson, 1996). Dental professionals, especially those who serve at peripheral centers, have a vital role to play in this regard.

This survey showed that the mass media play a pivotal role in educating the public about oral cancer. Since oral cancer and precancer are commonly found in socially and economically deprived strata of the population, it is doubtful whether modes of mass media are readily accessible to the underprivileged groups. Lack of suitable health education material such as leaflets and posters depicting clinical features of oral cancer and precancer is a serious problem which should be addressed immediately. The public should be educated and positively encouraged to participate in educational programs on cancer prevention with the hope of minimizing the incidence of this dreadful disease in Sri Lanka.

Although the present study was a hospital based survey it revealed some important aspects of the awareness of oral cancer and precancer. In order to further assess public awareness, a well-designed population-based study is now required. Nevertheless, from our preliminary data the following recommendations can be made:

1. The public must be made aware of preventive strategies, symptoms and signs of oral cancer and precancer.
2. Attractive and informative reading materials should be provided to the public, especially regarding precancer.
3. Well-organized low-cost educational programmes should be designed and launched to reach less privileged groups in our society.

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